AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture.

AGRICULTURE IS THE MOST HE[illegible]THFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON

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January.

"Through the hushed air the whitening shower descends,
At first thin wavering, till at last the flakes
Fall broad, and wide, and fast, dimming the day
With a continual flow. The cherished fields
Put on their Winter robe of purest white.
'Tis brightness all, save where the new snow melts
Along the mazy current. Low the woods
Bow their hoar heads; and ere the languid sun
Faint from the west emits his evening ray,
Earth's universal face, deep hid, and chill,
Is one wild dazzling waste, that buries wide
The works of man."

There is something appropriate and beautiful in closing the old year and beginning the new, with a covering of snow. It is at once a winding sheet for the dead past, and a spotless tablet on which to write the impressions of the future. All the face of nature and the works of man lie entombed under this pure marble surface. The soil of the farm is all of one seeming quality, the upland and the swamp, the rough and the smooth, all beautifully graded. Even the fences and stone walls are, many of them, erased, and one sees how charmingly a rolling prairie looks. It puts a new aspect upon the whole face of the country. Even the highways are changed, and the merry sleigh bells and the loaded wood sleds, pass over meadows and cultivated fields. Deep, narrow vallies are filled up, and unsightly brush and brambles, under the walls and by the road-side, are concealed. The farm of the sloven is for once put in order, and looks neatly. The gaps in his fence, the briars in his fields, the thistles and weeds around his house and barns, no longer stare us in the face

The snow, as a winding sheet, is suggestive of many profitable lessons to the husbandman. It buries up many of his defects that ought to be entirely removed by more thorough and efficient management. That meadow, where the boulders have never been disturbed, is now made smooth by the snow. It might be made so by a little gunpowder and labor, and preserve that even surface through the year. How much better it would look you can now see. How much better it would be, you would have occasion to know for the rest of your days. There are, perhaps, fifty unsightly rocks on every square acre, that have always hindered the plow, and the scythe, to say nothing of the room they have occupied. The expense of removing these stones is considerable, but then you gain soil by it, both in surface and in depth, and increased facility in tillage for a life-time. The clearing up of an acre of rocky land, is equivalent to a good sub-soiling in most cases, and it makes that operation comparatively easy whenever the land is taken up for hoed crops. These are important items to be deducted from the expense of clearing. Then the age of the mowing machine has arrived, and you cannot avail yourself of its great advantages until the meadow is cleaned up.

Now the snow has obliterated that long line of bushes, brakes and briars, under the wall, that have so long robbed you of the use of the richest strip of land in your fields. Here foul weeds and vermin have nestled, grass could not grow, or, if it did, neither cow nor scythe could approach it. You see how much better the fences look with this nuisance abated. Now it is not expensive to make clean work with these brush under the walls. A bush scythe and the grub hoe will finish them in a single season. You want the room they occupy, and the rich soil that always gathers under the fences.

Absurd as it may seem, there are farmers that plead for bushes and rocks. The former afford a delicate browse for the cattle, and the latter retain heat and moisture for the land. They prefer land with the rocks in it,—have perhaps seen land spoiled by taking the rocks out of it. Of course, if you add one-eighth, or one-tenth, to the surface of a field by removing stones, and if you bring a large amount of subsoil to the surface by the digging, you increase the demand for manure, and if the demand be not met, the yield may not be as great the first year after the operation. But let this demand be generously met, and the thoroughly-loosened and deepened soil will give you a better return for manure and labor, than you ever received before.

But the snow has completely covered those fences that divide a part of your mowing lots. Three fields are thrown into one, and you have a ten-acre field. How much time would you save in tillage if that arrangement were made permanent? It is a great vexation to cultivate corn or potatoes in small-walled lots, where the rows are hardly a dozen rods long, and nearly half the time of your man and horse is occupied in turning about at the ends. The mowing machine and the horse rake can never flourish in such circumscribed quarters. How much labor has been lost in fencing these small lots? The snow is a great leveller, and its example should be followed in demolishing many of these useless fences.

The swamps are now bridged and made solid. You can drive your team to any part of them with perfect safety. What a convenience it would be if those floating acres could be anchored, and always be placed under your control; if they could be made solid, so that the plow, rather than the water, should invade their fertile bosom. There they have remained for ages the receptacle of the riches of your farm, nourishing nothing but reptiles and coarse grasses. How beautiful they would look ditched and drained, luxuriant with clover, and nodding with the plumes of herd's grass. Shall art do the work of frost, and make those acres solid in Summer?

The husbandman is not merely a tiller of the soil. He sustains other relations, and this covering of snow should remind him of other duties. How kind is Nature in bestowing this mantle upon the earth in this inclement season! The lowly plants that nestle in the woods, the grasses and the tender shrubs, are all sheltered from the fierce winds and the cutting cold. Beneath the banks along the fences, the ground hardly freezes. Multitudes of plants, that would otherwise perish, are only invigorated by their hybernation, and are prepared to burst forth into new life and beauty with the opening Spring. She has forecast, and sees, that though she needs not these plants now, she will need them in the future. Thus they are sheltered and saved.

There are tender plants in the human family that will need shelter this Winter. Whatever the husbandman's circumstances, he should not forget the poor around him. He will need them in the future if he does not now. A little labor furnished now, or charity if needed, will bring warmth and comfort to their homes, and carry them through the Winter safely.

"In such a world, so thorny, and where none
Finds happiness unblighted, or, if found,
Without some thistly sorrow at his side;
It seems the part of wisdom, and no sin
Against the law of love, to measure lots
With less distinguished than ourselves; that thus
We may with patience bear our moderate ills
And sympathize with other's suffering more."

Gratitude for all that Providence has done for him, should prompt the farmer to befriend the poor.

But the snow is a spotless tablet, as well as a covering. So is this new year upon which we have entered. It is a blank now, but is all to be filled up with busy thoughts, words and deeds. What shall be written upon these unsoiled pages? What new improvements shall be introduced upon the farm, and what old ones shall be prosecuted with new vigor? Whose heart does not swell with hope and with a generous ambition, to make only fair marks upon the coming days and months. In our secular affairs, as in our spiritual, it will quite likely be unto us according to our faith. The faith that works persistently and with energy, will, in due time, transform barren acres into fertile meadows, rocky pastures into smooth fields, and miry swamps into solid land. It will realize in more glowing colors than we have painted.

As we look over our books we find n any names against which have been written during the past year that ominous word "Deceased." And how many more of the *Agriculturist* family, unreported to us, have since this day twelve months, fallen in life's battle field. This year will bear the same record. Of the thirty thousand or more, regular readers who begin the volume with us, in all probability a thousand or more will fall by the way-side in the year upon which we are now entering. No one of us can say it will not be I. Let us, then, start now on a new course of life, resolved to spend this year as if assured that it is to be our last. If we do this, however the event may prove, it will truly be, what we now heartily wish to every reader,

A HAPPY NEW-YEAR

Calendar of Work for the Month.

We note down at the beginning of each month a summary of the principal kinds of work requiring attention at the time, with some brief hints thereon, though many of the topics are treated of more at length in the pages following. A catalogue like this will often suggest or call to mind a piece of work which might otherwise be forgotten or overlooked. At the present season there is comparatively little field work to be done and our Calendar will, of course, be much briefer than during the more busy season of active field and garden labor.

FARM.

Among the important things needing present care and attention is the management of

Cattle which require warm quarters *under cover*, at night, and during storms. Feed them in and around barns rather than at a stack-yard half a mile off. Provide racks for out door feeding. See illustration on page 291 of last volume. For graziers who are constantly feeding cattle for market, a one or two horse-power corn and cob mill, and a straw cutter are almost indispensible appendages. A straw cutter of some kind should be in every barn.

Corn for Seed—If not saved, as it should have been, at the time of harvest, select the best ears now and put them away unshelled until planting time.

Farmers' Clubs—We trust these are in successful operation. See remarks on page 279, on the mode of getting them up, in the preceding number.

Fences—Procure timber from the frozen swamps and split out the yearly supply of rails and stakes. Make posts, working in holes or pinning two small pieces together. The hemlock logs peeled last Summer should now be taken to the mill to be sawed for fencing and timber. Make gates to take the place of the less convenient bars.

Grain—Look out for mice and rats on unthreshed stack or mows. Keep stock of all kinds from fields not covered with snow. During thaws look to drains and see that no water is allowed to stand on the fields.

Hemp—Break during cool weather and bale for market.

Hogs—If not fattened and killed last month hasten along. Unless waiting for a market it is far better to fatten early. Keep well bedded at night and supply manure materials for them to work over. Look to the future increase, and provide a healthy male of improved stock. Read article on "Feeding Pigs," page 14 of the present number.

Horses and Mules—Give ground feed with cut hay or straw, moistening with water. Mix a few cut carrots with their feed occasionally.

Ice Houses—Fill with the first firm ice of the season, packing it in closely and covering with plenty of straw.

Manures—Keep up the manufacturing at all times, mixing in the muck and leaves stored under cover last Fall. If the manure is not covered in the yard, cart it to the fields. Bring home on wheels or runners all manures purchased at a distance and also muck from the swamps.

Marketing is a part of the thrifty farmer's business, and the beginner has much to learn. It is best to take only good produce to market. Large fruit sells better than inferior kinds. By sorting potatoes the farmer gets many bushels of small ones for his hogs, while the large measure just as much without them, and bring a better price. Clean, plump wheat sells readily at an advanced price for seed. So with stock and other produce.

Poultry—Warm quarters on a *ground* floor, meat, fish and pounded bones, oyster shells or lime, will usually secure a supply of eggs in Winter. Chopped cabbage is a good substitute for the green food of the milder seasons. Keep roosts clean, carefully saving the contents.

Roads—Let pride and love of order, to say nothing of convenience, stimulate those in charge to keep the highways always passable. Roads left blocked up with snow indicate a slovenly neighborhood.

Schools—Have good ones and send your children to them punctually and constantly. Avoid keeping the older boys at home occasionally. They have a right to an education and a considerate parent will not weigh his boy's work against his intelligence. Visit the schools to encourage both teacher and pupils.

Sheep—Look to an increase of improved stock by introducing a choice buck. Let salt be accessible, or feed salt hay occasionally. Shelter from storms, of course.

Timber—In the Northern regions, get out pine and hemlock logs, as well as cedar, chestnut and locust for fencing and other purposes. A "bob sled" will be servicable.

Tools—See that steel and iron surfaces do not rust. Employ leisure time in repairing those that are failing: provide needed new ones for the Spring. All implements are presumed to be under cover. A Winter's exposure is as injurious as a season's wear. A tool house and a work room, with carpenter's tools, should be an appendage to every farm house.

Turnips and other roots—Feed daily to milch cows. If mixed with Indian meal and fed after milking, little or no taste will be given to the milk. A root cutter, like the one shown on page 284, December No., will be of great service.

Wood—Get up enough to last a year, at least. Cut, split and pile under cover. There will be economy in it, to say nothing of superior cooking, meals in season and a pleasant housewife.

ORCHARD AND NURSERY.

These, in the northern States, are mainly covered with snow and require little care save guarding against mice and clearing the snow from the branches of small trees.

Tramp around trees in the orchard after the first snows to form an icy barrier near the ground which mice will rarely pass.

Shake off the newly fallen snow from branches of evergreens, and raise any limbs partially buried and liable to be pulled still further down when rains, or warm weather settle the drifts.

At the South, and whenever the ground is open at the North, transplanting may still be done, scale washed from young trees, and moss and rough bark scraped from the trunks of older ones.

In nurseries labels and division stakes should now be provided for Spring use. Probably a busy season is awaiting the nurseryman to balance the light trade of last Fall. We hope so at least.

Scions should be procured for Spring grafting, burying them in a snow bank, dry earth, or in sand or moss in the cellar. See that no mistake is made in cutting them, and label each variety with care. By shaving off the but end of a scion the name can be legibly written upon the green wood with a pencil, if no label is at hand.

Pruning *may* be done lightly, in mild latitudes, if the time can not be devoted to it next Summer.

Manures of various kinds, muck, lime and ashes may now be procured and hauled to grounds intended for Spring planting. Read the first of a series of articles on the Orchard on page 17.

KITCHEN AND FRUIT GARDEN.

We suppose, of course, that the Asparagus, Strawberries, Spinage, Raspberry plants, &c., were all covered at the proper season. There is little now to do save putting everything in readiness for early Spring work. At the North manure can be procured and carted upon the grounds, tools be repaired, &c., while South the early gardener will be making and sowing his hot beds, or even working and planting open grounds.

Bean Poles—Procure these while the swamps are frozen. Pea brush may be collected at the same time. Both can now be got better than during the busy period of Spring.

Cold Frames—Watch them closely, omitting no opportunity to air them in suitable weather, but keep closed and well covered with straw during severe cold. If covered with snow leave it on until warm enough to give an airing. Pick off all decaying leaves from the growing vegetables.

Currant and Gooseberry Cuttings may still be made, and the bushes themselves be pruned.

Hot Beds—Provide frames, sash and fermenting materials for early use. Especially have some fine rich mold placed under cover to spread over the surface of the beds previous to sowing. If this is omitted until wanted for use, it may then be wet or frozen. Beds can be made the latter part of this month especially at the South. Next month will be quite early enough in this latitude. Further directions for making, next month.

Manure—Make and collect a bountiful supply. A heavy dressing of this is one great "secret" of good gardening. You can much better afford the time to draw them now than at planting time.

Mushrooms—Examine beds and boxes, and keep moderately moist. A respawning will sometimes start them into bearing after the beds are apparently unproductive. Boxes may be prepared at any time as fully described on page 262 of last volume.

Rhubarb and Asparagus—To get these early, cover a portion of the beds, the latter part of this month with one to two feet of stable litter and manure. The heat of the fermenting material will draw the frost from the ground and induce a much earlier start in the Spring. Barrels sawed in two and the halves placed over hills of rhubarb and the whole buried with manure will answer a still better purpose.

Seeds—Examine the seed box to see if a sufficient supply is apparently in good order. If not, procure them early while the seed dealers have a full supply. Where many are wanted and you distrust the quality, procure samples and test them before getting a full quota. Forty-eight hours is long enough to prove some varieties; others require several days. Place cotton upon the top of a tumbler, or other glass of water, and scatter seeds upon it, keeping in a warm room and placing near the stove at night. The moisture absorbed by the cotton will cause them to sprout and even grow several inches in hight.

Tools—Repair old and procure the new ones which will be wanted in Spring. The *gardener* has a tool house of course, and has studied economy too much to leave his implements out of it.

Trellises—Repair those needing it and confine any branches of fruit trees or vines which are dangling in the wind.

FLOWER GARDEN AND LAWN.

Little can be done in these, at the north, during this month, save a general care of the grounds, and protection of shrubbery, especially evergreen.

from breaking down under the weight of snows. By drawing in the branches with a strong twine passed around the outer circumference from the bottom to the top, a less surface will be exposed to catch the snows. The juniper and yew especially require such screening and their future growth is improved by it. Shake off any snow that has lodged on the branches.

Prepare stakes and labels for Spring use. Where new plots are to be laid out in the Spring, the operations will be greatly facilitated by drawing a plan upon paper, marking off the avenues, walks, beds and locating trees and shrubbery. You will thus be prepared to work without interruption at a more busy period besides having a guide by which to procure trees and plants.

At the South, and in all places where the ground is not frozen, transplanting may safely be done. If immediate effect is desired a few large trees can be moved during the Winter, by digging up each specimen with a large ball of frozen earth adhering to the roots and drawing to its place with a team. We would not advise moving many such trees for reasons given on page 19.

Hedges and box edging may also be planted in mild latitudes. Examine the flower pits and frames and admit air every mild day, but keep closely covered during heavy frosts. If covered with snow, leave it on for a Winter protection.

GREEN HOUSE & CONSERVATORY.

Keep everything neat about the rooms, washing the floors occasionally, and picking off all decaying leaves from growing plants. Scrape the moss from the surface and sides of pots, and suffer no weeds to grow in them.

Many plants in these collections are half-hardy, and require only a moderate amount of heat, say not exceeding 50°. or 55°. Frost must be entirely excluded, nor should the mercury fall lower than 35°. During cold weather fire heat will be necessary.

Air should be admitted every mild day, opening the upper shutters for a short time about midday. Keep closed during damp and foggy weather.

Bulbs—Place in a cool shady part of the room. A few may be taken to the Hot House for early blooming. Water freely, changing that in glasses whenever it becomes turbid.

Camellias—These are now swelling their buds and in early houses bursting into bloom. Water as often as the earth becomes dry, and syringe the foliage without wetting the flowers. Wash the leaves of plants preyed upon by red spider, with soap and water, rinsing off with clear water. Head back ill shaped ones, and sow seeds or plant cuttings.

Insects—Fumigate with tobacco if unfortunately insects have got a foot-hold among the plants. Syringing the walls and crevices will often dislodge them.

Oleanders, Oranges and Lemons—Keep in a cool part of the room and water lightly at present. Wash the trunks with soap suds to destroy scale, and render them bright and healthy. Those beginning to grow, may be brought nearer the heat and light, and watered more freely.

Water—Only a moderate amount is required at this season. Plants that are growing luxuriantly need much more than those resting. One or two waterings for the month will be sufficient for herbaceous and deciduous plants, while succulents may be left without any for the present.

HOT HOUSES.

Much care will be requisite during the present month to guard against the extremes of heat and cold, the ravages of insects, and to keep the earth in pots in a proper state of moisture or dryness. Cleanliness is also essential, both for appearance and a healthy condition of the plants, many of which are now in bloom and therefore the more sensitive. The floors should be kept neat, all decayed foliage daily removed, and the plants often washed to free from dust.

Air—It is quite important to supply fresh air to take the place of that rendered impure by the heat of the furnace, and growth of plants. To avoid a draft of cool air, admit it through the upper ventilators during mild days.

Azalias—Many of these are now beginning to bloom and need frequent waterings. Syringe freely.

Bulbs—Bring a few each week from the Green House to keep up a fine show of bloom. Those in glasses should have the water changed every week at least.

Cactuses—These require little water and should stand in a dry part of the house.

Calceolarias—Shift those requiring it into larger pots, and keep at a distance from the furnace, turning the pots often to secure an upright growth.

Carnations in bloom, require staking, and should be watered often. Shift those which are pot-bound.

Cinerarias will need especial watching as they are favorites of the green fly. Tobacco fumes are the best antidote. Repotting will be necessary in many instances.

Fuchsias—Prune them in to a good head, and repot in fresh soil.

Grapes—Dampen the floors and walls of the forcing houses, and syringe the foliage often until blooming begins. The out-door borders for the roots require a thick covering of fermenting manure.

Heat—The furnaces and hot water pipes should only be intrusted to skillful hands, and the thermometer often consulted. A temperature of 55°. to 65°. is the most desirable—it should never vary over 5°. either way. Lower the upper sashes to reduce the heat, and put the shutters on early at night during cold windy weather.

Insects—Prevention is better than cure. A moist atmosphere, frequent washing and syringing of the foliage, hand picking, &c., are the best preventives. For a cure, use tobacco fumes for thrips and green-fly, soap and water for scale, and a sponge or syringe and clear water for red spider.

Petunias and Verbenas—Plant cuttings and make layers for a new stock.

Seeds—Sow annual and other seeds for early Spring planting in the open grounds.

Water—The watering pot and syringe should be frequently used this month, although the inexperienced are more liable to injure the plants by excess than by too little water. Thrifty growing plants require much more moisture than those which are in a state of rest. An examination of the earth in the pots, affords the best clue to their wants. Water only when the soil becomes partially dry. The water should always be *soft* and taken from a tank or cistern *in the house itself.*

THE APIARY.

BY M. QUINBY.

This is usually the severest month for Bees. Those in the open air should be watched, if a long period of severe weather occur, to see that the holes for ventilation do not get choked with bees, frost, or ice. Where the mice have been shut out from the hives as directed last month, they will be likely to still lurk around the vicinity, and now is a good time to trap them; it may save much trouble another year. If you have neglected to shut them out, then it is doubly necessary to be vigilant in trapping them—they will heed no complaints that you may make next Summer of "bad luck." Make things safe relative to mice and ventilation as directed; then, in case a deep snow completely buries the hives for weeks, no harm will be done. When so covered, a space around the hive is soon melted; but unless these depredators—mice—are excluded, they are quite sure to do the more mischief for having it covered up. Bees in the hive, will need but little care—it is well to make an observation occasionally to see that all is right.

The Times.

COGITATIONS OF AN OLD FARMER.

Hard times! So, everybody says; and so say we—for the "times" do bother us, as everybody else is bothered. Possibly we may not be so badly damaged as some others, but we know enough about the hard scratching which they inflict upon us to wish they were otherwise. We have had "good" times too, and quite a run of them for several years, until a few months ago. So the same "everybody" told us time and again. Yes, they were good times. We had free-trade, and free-credit abroad; and we used it freely too, with a vengeance. We have built a long array of free rail roads, free to the select coteries of speculators who got them up for their own especial benefit, mind you, on bonds which were gobbled up by the usurers with decided *freedom.* The roads gave free passes to the legislators, and judges of the country, as well as to various editors, for which, the little share that we had in the riding we shall never cease to thank them. We imported millions of free goods that we did not need, but which we have made out to wear, and eat, and drink, and dispose of in one way and another; and the beauty of it is, those which are not paid for, or used up—and they are many—the owners are free to send back to where they came from, as many of them probably will, or let the goods lie a long while in the bonded warehouses, awaiting better times for sale and consumption.

The truth is, for the last eight or ten years we have built extravagantly, dressed nonsensically, lived lavishly, speculated wildly, trusted everybody about us, as we got trusted abroad, and "laid loose" around, generally. Our farmers got great prices for their produce to feed the fools and tyrants who were doing up their own fighting in Europe; and they got such prices so long that they supposed they were always to have them. Our towns were so prosperous, and people in them got rich so rapidly that a vast many others, old and young, who were doing well enough on their farms and thought they could do a great deal better in town, left them to know little peace or quietude afterwards. Our women and girls quit spinning stocking yarn at home, and took to spinning street-yarn, and wearing crinoline abroad. Instead of thumping the clothes in the pounding barrel in the kitchen, they took to thumping the piano, and the melodean in the parlor; while the boys, and "Young America," took to "fast horses," "long nines," "cock-tails," and a general "cut up," all round the board, and so went the world.

These be homely truths, bluntly spoken, we admit. But are they not true! We opine them to be so, for we have seen just such times before—bating the railroad speculating—twenty-years ago—and which we have the best reasons to remember so long as we live.

Our lives are a mixed commodity of good and

evil. The old patriarch Jacob, who, after many days of prosperity, clouded occasionally with a trifle of adversity, being brought in deep affliction and questioned by Pharaoh of his life, answered: "few and evil have been the days of my pilgrimage." So a great many of us may say now; yet, with all the warnings of wise men for some time past, like Jeshurun of old, we "waxed fat and kicked" at the shadow of calamity afar off; and with the homely proverb, having danced, we now must pay the fiddler. In short, we have to square accounts—those who can—and for those who can not, they must do the best they can, and get "clear of the ropes," somehow. In sober truth, we must "settle up," and again go to work. We must cease importing goods we do not want; we must abandon superfluities we do not need; we must stick to our farms, our workshops, and our trades, whatever they may be—if we can get a living by them—and if we can not do that, take to those at which we can. Instead of earning one, five, or ten hundred dollars a year, and spending more, we must earn all we can, and spend less. That is the only true and honest way to fortune. A great master of human life has said:

"Sweet are the uses of adversity,
Which, like a toad, ugly and venomous
Hath yet a precious jewel in its head."

He did not know much about toads, however, for they are decidedly good things in a garden.

Cure for Lice on Cattle, Colts and Pigs.

During winter, farm stock are apt to get lousy. The following articles will drive away, or kill the lice:

1st. Soft grease, of any kind, and Scotch snuff—an ounce of snuff to a pound of grease—mixed and rubbed in among the hair, on the affected parts. If you have not the snuff, use the grease without it. It will effect a cure. We have tried it.

2d. Powdered charcoal, or coal dust, sifted into the hair.

3d. Ashes from the blacksmith's forge, sifted into the hair.

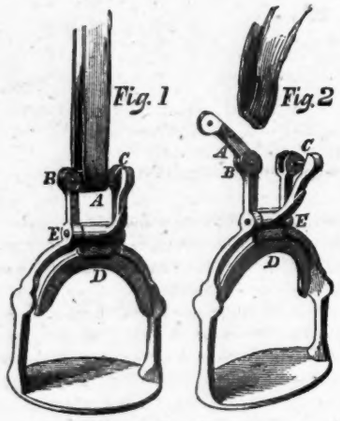
For lice on swine, or pigs: Pour buttermilk along their backs, freely, so that it will trickle in little streams down their sides.

These have all been tried, with entire success, so that no one need have an excuse for lousy stock.

If sheep get *ticky* during the winter, open the wool along their backs, and sprinkle in a little Scotch snuff, from the head to the tail. A tablespoonful is quite enough for the largest sheep, and from that down to a teaspoonful for a lamb.

The Use of Dourah Corn.

In reply to this query of Olando Bodfish, of Barnstable Co., Mass., we answer: Its seeds are used as a feed for various animals, especially for fowls. It is raised somewhat extensively at some points in the Southern States and in Mexico. We raised a small plot as an experiment two years since, but was not impressed with a very high opinion of it for Northern culture. The stalks grow large, of the size and resembling Indian Corn, with a large single seed head, which bends over with a graceful curve of the upper stalk. The main objection appeared to be too much stalk for the grain. This plant is sometimes called the Great Millet, also Indian Millet, and Negro Guinea Corn. In Arabia, where the flour is used for cakes, it is named durra corn. There are two varieties, the one very white, the other bordering upon yellow. We are not sufficiently advised as to its real value, to say that it is superior to the common millet, especially when we take into account the value of millet straw.



A Safety Stirrup.

Riding on horseback is not only a very neccessary exercise, particularly in the Western, or newer portions of the country, but it is also a most healthful one in all places—for women as well as for men. Yet after having seen two ladies thrown from horses, with a foot fast in the stirrup in each instance, we confess to a species of shrinking fear, whenever we see one of the gentler sex upon the saddle, on even the most docile animal; and we are utterly unable to enjoy a social gallop when there can be the remotest chance of again seeing a riding companion whirled along at a fearful pace, dangling by the horse's side with all lineaments of beauty horribly disfigured or effaced by the iron hoofs. We cannot therefore do otherwise than hail with pleasure any invention promising to render riding on horseback less dangerous; and such an invention we think is Dr. Neil's safety stirrup. The engravings, with a brief explanation, will give a clear understanding of the form and operations of this stirrup.

As shown in figs. 1 & 2, and in fig. 3 below the

Fig. 3.

lower part of the stirrup is of the ordinary form. The saddle-strap is fastened to the piece *A*, which turns in a joint at *B* (fig. 1 & 2). When in use, the other end is held in at *C*, by an iron pin, fastened to *F* (fig. 3). *D* and *F* constitute one piece, turning upon the pivot *E*. A concealed spring around *E* keeps the part *D* in the position shown in fig. 1, and, consequently, the piece *C* holds the end of *A* firmly where it is shown in that figure.

But suppose the foot to turn, in the manner shown in fig. 3, as it would be, in case of falling, it then presses against *D*, throws out the upper end *F*, withdrawing the pin from *C*, and the piece *A* is then thrown up, and, of course, the stirrup is at once released from the strap. We have examined these stirrups carefully, and find them well adapted to secure the desired end, and yet admirably guarded against danger of being loosened during ordinary use. The apparatus is simple, easily made, and not likely to get out of repair. At present they are held at some $3 to $5 per pair. The price varies with the style, silver plating, &c.

Chicken Meat Cheaper than Pork.

To the Editor of the American Agriculturist.

Everybody loves chicken, roasted, boiled, fricaseed, or broiled. By itself, or in pie, it is pronounced first-rate by all who ever sat down to a Thanksgiving dinner of the olden time. But chickens always taste of the silver if you buy them, and if you raise them, they are thought to cost more than they come to. "Very nice is chicken, but the dearest food upon the farm! Poultry is more plague than profit, and the less care bestowed upon them the better." This has not been my experience. I intercede for the "biddies," and beg for them a little of the attention that is bestowed upon their more gross and less attractive neighbors, the pigs. Give them a fair trial, and they will pay any farmer for his care much better than pigs, and will supply his table with greater luxuries, and at a cheaper rate. And to establish this position I will tell you a tale, quite as literal as some others, founded on fact. In the year 1850 my poultry yard cost me—

In stock	$39 96	
In food for fowls	39 81	$79 77
It produced in eggs	$34 92	
" in manure	5 00	
" in stock at close	50 00	$89 92
Deduct expense		79 77
Profit		$15 15

It produced in this time 91 fowls, weighing about 300 pounds, paying ten dollars above what they cost. In other words, the yard paid for itself and three cents a pound premium for all the poultry used in the family. When did a porker ever pay you for the privilege of eating him! Even Charles Lamb's roast pig will have to knock under to the biddies.

In 1851 the yard cost—In stock	$54 50
" " In food	65 56
Total	$120 06
It produced 268 dozen eggs, worth	$48 76
" 5 loads of manure	5 00
" Stock on hand at the close	113 00
Total	$166 76
Deduct	120 06
Profit	$46 79

It produced 61 fowls, weighing about 200 pounds. In other words, the poultry paid 23 cents a pound for the privilege of being eaten. Was roast pig ever so gracious as this? I have tried pork growing repeatedly, and have never been able to reduce the cost of production below five cents a pound. I shall eat poultry henceforth.

CONNECTICUT YANKEE.

A lady fixed the following letters in the bottom of her flour barrel, and asked her husband to read them: O I C U R M T.

Can't Raise Turnips.

Nothing is more common with a certain class of farmers than the above declaration, in regard to the turnip crop. It embodies all the wisdom, and is the grand result to which they have come, after repeated failures. These failures are generally owing to poor or unsuitable soil, a lack of manure and tillage. If a neighbor chances to succeed with a crop, they think there is some magic about it, and are certain he cannot do it again.

We have made two experiments with this root, both as chance crops, which would go to show that, with suitable attention, it is one of the surest and most remunerative crops the American farmer can raise. Last year, we sowed them at the last hoeing of corn, in July, cut up the corn the first week in September, and harvested about one hundred bushels of turnips upon about an acre of land. Estimated cost, about four cents a bushel.

This year we sowed them after early potatoes, about the same time as last year. Ploughed in the weeds and potato vines, and put in the seed with a bush harrow. We harvested two huudred and sixteen bushels, besides a good many small ones, that were fed off the ground. The estimated cost was a trifle under four cents a bushel. Last year we manured with bony fish; this year, with guano, salt, and plaster; the manure, in both cases, being applied to the first crop. The superior product, this year, was probably owing to the fact, that the turnips had the whole ground nearly a month earlier than last year, and also to the fact, that the ground was fresh plowed when the seed was sown. The variety was the cow-norn, which we think admirable for this purpose.

Gypsum for Grass Land.

In the region of Newtown, Conn., and vicinity, (as well as in many other parts of the country,) ground gypsum, or plaster, is extensively used as a top dressing for grass land. The effects are so marked that a region of exhausted meadows and pastures have been brought into one of the finest grazing districts in the State. Newtown has now the reputation of being one of the best farming towns in Fairfield County. Hill pastures that once yielded a scanty herbage, are now luxuriant with grass, and support thousands of cattle. This fertilizer is generally sown upon the ground in the Spring, at the rate of about two bushels per acre.

It was not until modern times, that the value of gypsum, as a fertilizer, was discovered. Indeed it is not until a quite recent period, that the chemists were able to distinguish it from limestone, or other calcarious rock. Meyer, a German clergyman of distinction, about the middle of the last century, experimented with it, and is reported to be the first who brought it into notice. The substance was found in his neighborhood; and was afterwards shown to be an impure sulphate of lime. It is called Plaster of Paris, from the fact that it abounds in the neighborhood of the French capital, where it is burnt and used for stucco. In 100 pounds of *pure* plaster there are:

Sulphuric acid	43 parts.
Lime	33 parts.
Water	24 parts.

But the gypsum used for a fertilizer is usually united with silica, (sand,) and carbonate of lime. The rock is generally taken from its native locality, and carried in small fragments suitable for handling, to the plaster mill, where it is ground and barreled.

There is perhaps no fertilizer that on some soils produces so decided results for so small cost. It has been applied with special benefit to clover, rye grass, lucern, san-foin, turnips, wheat, &c. We have found it most profitable on clover. The theory of its action is, that it absorbs ammonia from the air, and holds it stored for the plants.

Whatever the theory be, it is found in practice that gypsum has a strong affinity for the ammoniacal gas, which is continually escaping from the privies and stables. One of the most economical methods of using it, is to pass it through the stable and the privy on its way to the field. It is a good deodorizer, subduing the pungent gasses that exist, in warm weather, around decaying animal matter. A cask of plaster should have a place in every stable, and it should be sprinkled literally over the floor, until the smell of ammonia ceases. Its effect upon the health of animals is quite as marked as its influence upon the manure heap.

Both as a deodorizer and as a top dressing the use of plaster is quite too limited in this country. The article is so cheap that there is little temptation to adulterate it, and a farmer is pretty certain to get what he sends for when he orders it. As only two to four bushels ordinarily suffice for an acre, it is not expensive, and easily applied. On all lands that need this fertilizer, the effect of a single application is so marked, that a farmer cannot doubt its utility or economy. On lands already supplied with it, no effect is perceptible, and a single trial would show it to be useless. In such cases, it should only be used in the stables and compost heaps.

Experience in Maple Sugar Making.

To the Editor of the American Agriculturist.

As the season is approaching to commence operations in the "Sugar Camp," I will offer a few suggestions and plans gleaned from my observations and experience. It would seem that the process of making Maple Sugar is so simple that any one possessed of the least "gumption," could not fail to make a good, if not a superior article, but such is not the fact, as the great amount of black and almost worthless stuff annually made, abundantly proves.

1st. In tapping I use a $\frac{1}{2}$ or $\frac{3}{4}$ inch auger bit; and to "freshen" with, I use a follower, made something like an old-fashioned "pod auger," to make the hole about an eighth of an inch larger, and the same deeper, thus renewing or freshening the surface of the original hole.

The spout is made of sheet iron or tin, two inches wide and six to seven long, formed into a quarter circle, one end sharpened with a file or grindstone, and driven into the *bark only*, about $\frac{1}{2}$ inch below the auger hole. Drive with a wooden mallet to prevent battering the spout. This is by far the best and cheapest spout that I have ever seen.

2d. For buckets, I recommend those made of tin plate, to hold about three gallons, made a very little tapering, so that in the case of freezing the ice will slip out on the slightest thaw.

Punch a hole in the bucket sufficient to receive the nail that is to be driven in the tree to hang it on, and it makes—*par excellence*—the best bucket for the purpose extant.

3d. Boiling is done in sheet iron or copper pans, (not kettles,) made as follows: Take a sheet of Russia iron, put a quarter or three-eighths inch iron rod in each end by tapping, or bending the iron around it. Let these rods be 16 to 18 inches longer than the width of the sheets. Have the ends of the rods flattened and a small hole punched, and bend them in such a manner that they may be nailed to the boards, forming the sides of the pan, to serve as handles to lift with. When this is done, bend the sheets up at each end 6 or 8 inches, and fit in and closely nail side boards about 1$\frac{1}{4}$ inches thick, to form a box 6 or 8 inches high, and they are ready for use. Then brick walls, or an arch as it is commonly called, are built to accommodate as many of the pans as are needed, with two iron cross bars under the bottom of each pan to prevent their sagging, and straining the nailing too much. Set the pans level in mortar, and you have a boiling apparatus that will evaporate an amount of sap that will astonish those who "have always boiled in kettles," and do the work much better than it can possibly be done in kettles, as there is no danger of burning or boiling over—this being prevented by the wooden sides. With three such pans, as above described, and good dry wood, *one gallon per minute* can be evaporated.

With the above apparatus, and proper care in keeping everything connected with the "camp" *clean*, sugar can be made much superior to the best cane sugar that I have ever seen. The cost of buckets, with spouts, will be from 40 cents to 50 cents each: the pans, holding 35 gallons, will cost from $2 50 to $4 each.

R. H. Howard.

Darke County, O., Dec. 15, 1857.

REMARKS.

The above apparatus is a very perfect one, and may be adopted in detail in many camps. The only objection will be the expense of the buckets which will preclude their use in a majority of cases. We thank Mr. Howard for his early suggestions, and as maple sugar-making will begin in the month of February, we solicit the experiences of sugar makers as soon as may be—in time for our next issue. Please help us to a page or so of good practical information on this topic. There are many interesting points, such as the best form and best wood for troughs, buckets; side of tree to be tapped; hight from the ground, size, form and depth of hole; carrying sap; boiling, clarifying, crystalizing, &c., &c.—Ed.

A Look into the Patent Office Report for 1856.

We confess to have entertained no very exalted respect for the Reports of the Patent Office for years past, so far as American agriculture is concerned, and have expressed our opinions thereupon with tolerable freedom, as occasion offered. The whole agricultural Department of the Patent Office, as a branch of the public administration, connected with the economical industry of the nation, compared to what it should be, is a sham, and little better than an insult to the great leading interests of our country.

We admit that there has been an improvement in the "Reports" of that office for a few years past, yet the best of them are but a shadow, in point of ability and research, to what they should be, under a proper administration of so important a department. Politicians, bookworms, and office clerks are not the men to make up, elaborate, and send forth important papers, with which to instruct, not only the farmers in what pertains strictly to their own calling, but to enlighten statesmen in a broad and liberal course of legislation for the best domestic interests of the country; and it is confessedly the case, that none others, or with rare exceptions, are the parties employed in what should be such an important labor.

The Report of the year 1856 is now before us. Its material and execution, in paper, type, printing, and binding, is an evident improvement on the majority of its predecessors. It embraces five hundred and thirty-six pages, index included,

being less in compass than some of its predecessors, and therefore an improvement. As to the matter of the volume, it is various in character and value. The introduction by Commissioner Mason is sensible and to the point. We only regret that his good suggestions could not be followed by Congress, of which, by the way, we have no hope, so long as low politics and self-aggrandizement absorb the mass of our legislators. Out of the seventy-five *millions* expended annually by the Government, in one thing and another, we are told in this Report, that seventy-five *thousand* dollars are appropriated to the agricultural use of the Patent Office, being just one-thousandth part of what our population—five-sixths of whom are farmers—having paid for Government purposes, get back again in the very equivocal commodities retailed through this Bureau!

The book opens with a lot of pictures—indifferent indeed, but quite tolerable for a book printed by Congress; and, in our opinion, the book would be quite as good without them, the Isothermal map excepted. There are also several papers contributed by D. J. Browne, the chief compiler, and such an inveterate literary poacher is he, that it is difficult to say what is his own, or what belongs to others. His "dairy" matter, taken, as he confesses, from English authority, is worthless here, and what appertains to other things, little better. Robert Kennicott, of Illinois, has some pleasant contributions in Natural History, of birds and beasts. Henry F. French, of New Hampshire, has an excellent article—as all his articles are—on draining. Doctor Jackson, of Boston, gives a sensible essay on fertilizers, and a short notice on Sorgho sugar and molasses. John J. Thomas, of Cayuga Lake, as is his wont, writes well on grafting and budding; and the "Reports of the American Pomological Society, for 1856," are given at length, comprising eighty pages. Then comes an excellent paper from Dr. John A. Warder, of Ohio, of thirty pages, on grapes and wine-making, followed, as are several of the previous papers, by flourishes of the aforesaid "D. J. B." Then a short, illustrated paper, very well in its way, on implements and tools, by Townsend Sharpless, of Philadelphia, followed up by a long study on meteorology, by Professor Henry, of the Smithsonian Institution, illustrated by an Isothermal map, a subject of interest to those who are fond of tracing out the laws and action of the elements, as they traverse, in wind, and storm, and heat, and cold the northern half of the American continent. All these, with a few others not enumerated, closed up by sundry statistical tables, of articles exported from the country, make up the volume.

On the whole, as the upshot of a year's work in the Agricultural Bureau of the Patent Office, we cannot say much for the book. Half-a-dozen agricultural periodicals that we can name, give us an annual fund of information, far exceeding this in value, and reach ten times the number of readers that the book will do, distributed, as it is, among the people, through the favoritism of the members of Congress. The annual distribution of seeds by the department, also, through the members of Congress, by way of the Post-Offices, with few and far between exceptions, we consider an *arrant humbug*. We have had scores of packages, in nine cases out of ten, only to try, and condemn them, as far as anything *new* was concerned. This practice ought to be discontinued instanter. It lumbers the mails, and frets the people who get them with disappointment. If anything really new and important could be obtained by the Patent Office, in that line, it would be well to distribute it among our farmers; but when the purchase of seeds, common and *unclean*—as many are—is made a jobbing affair, for the benefit of a few favorites, instead of a public object, the less of it the better.

We liked Commissioner Mason very well, in his official capacity—for we know nothing of him otherwise—and we regret that political needs should have displaced him for another, whose capacity in a like office has yet to be tested.

Tim Bunker on a New Manure.

Mr. EDITOR—I ha'n't told you anything about my carrot crop, this year, and the way I astonished the natives, and myself about as much as any of them. It is seldom that a new idea gets into the heads of the people up here in Hookertown, but they all declared they got one, when they come to see my carrot crop. I guess I had one myself but it was not exactly the same as my neighbors'.

You know, last year, I told you about the subsoiling of my garden, and the lots of garden sauce I put into my cellar, in the fall of 1856. That waked up some folks considerable, and Seth Twiggs in particular. One day, last spring, he come down to our house—pipe in mouth, as usual. Says he, "Esquire Bunker, I am going in for some of them premiums, myself, this year, and I calculate to beat you on carrots, do your prettiest."

"Dew tell," says I "and what are you going to manure with?"

"Pig manure and a subsile plow. You see I've got Deacon Smith to subsile my garden, and I've got manure enough to cover the ground an inch thick, all over. You're a gone coon, this time, Esq. Bunker, I shall beat you;" and the smoke rolled up in a cloud as he walked off, the picture of self-satisfaction.

Says I to myself, after Seth had gone, "a subsile plow is not the chief end of man. I'll try a few tile drains and a trenching spade."

The lower end of my garden, you know, is bounded by a ditch, and has always been too wet. I got sole tile enough to drain a quarter of an acre, putting them down three-and-a-half feet deep, and thirty feet apart. Thinks I to myself, "If Seth Twiggs gets the start of Tim Bunker on carrots, he'll have to manure with something deeper than subsile plows." After the tile were put down, I could see they were needed, because after every rain that came, they would discharge water into the ditch. Seth thought he was doing rather an extravagant thing, sir, putting on the manure an inch thick. It only showed what a fog his mind was in, about manures. I had a grand compost heap, that I had been making all winter—muck, night-soil, soap-suds, and a lot of bony fish—at least ten cords, and very strong. I had it all worked into that quarter of an acre with the trenching spades, full three feet deep. I then raked it all over with a steel-toothed garden rake, the teeth six inches long, making a seed bed about as soft as a bed of down. I sowed the carrots in drills, on the first day of June. The drills were fourteen inches apart, and I thinned them out to eight inches in the drill.

When I was digging them, the week before Thanksgiving, Deacon Smith, Seth Twiggs, and Uncle Jotham Sparrowgrass, came along. The heaps were lying on the ground, about as thick as haycocks, and nearly half as big.

"Quite a crop, Esq. Bunker, says the Deacon."

"Did you subsile. this year," inquired Seth, his countenance fallen and woe-begone, as he eyed the yellow boys lying around, many of them plump thirty inches long!

"Pray, what did you manure with," inquired Jotham, as his eyes opened with astonishment?"

"With brains," said I.

"Brains!" exclaimed Jotham. "I never heerd of that manure afore. Where upon earth could you get enough for a load?"

I could see that the deacon enjoyed Jotham's innocence. and there was a sly twinkle in Seth's eye, which showed that the idea was crawling through his wool.

"If you do not believe me, gentlemen, if you will walk down to the lower part of the garden, I'll convince you of the fact."

"There," said I, pointing to the tile, which were then discharging water into the ditch. "I put the brains of ten thousand bony fish on top of that piece of land, and down below, there, you see some of my brains running out."

Uncle Jotham Sparrowgrass got a new idea on brain manure then, and it is very well disseminated in this neighborhood now. My own new notion is, that we have got a very imperfect idea of the productiveness of the soil, when worked and manured with brains. I measured up 403 bushels of carrots from that quarter of an acre, and I expect to beat it next year.

Yours to command,
TIMOTHY BUNKER, Esq.

Hookertown, Conn., Dec. 15, 1857.

Gather Manure from the Roads.

To the Editor of the American Agriculturist:

Your paper of this month has been perused with more than usual interest and profit, although every number contains much valuable information, and many good suggestions, not only editorially, but from correspondents, which, if acted upon, would be of incalculable benefit to the farmer. Notwithstanding the present season is not so favorable for farm work, yet, as you say, there are a thousand things which are *better* done now than at any other season; and it will be conceded that any man, especially the tiller of the soil, who neglects to do these things now, will find that when he can illy spare time, they will have to be done. On such a day as the present, for instance, who has not repairs to make to the utensils of the farm, and what more profitably can be done than to take them to the barn, or work-shop, and give them a thorough overhauling? I must confess that I have been guilty of neglect myself, and can see now why such work should be attended to when the time is not required for other work.

But my object now is, not to write a dissertation upon points which receive so much attention in your paper, but to say a few words again in favor of my much-valued *muck*—my experience in which you published in your last. There are some farmers and gardeners who have not a muck pond to go to for a supply. It is to this class especially that a word may be of benefit, for I speak from experience, and can testify that what I recommend will pay.

Almost every farmer has access to the road, or highway, and will admit that mud (or muck) makes a bad road. It is too often the case, that because this material is easily *worked*, it is drawn on to the road, and the consequence is that in dry weather there is much dust, and in wet weather much mud. Every farmer would be the gainer if he kept the road opposite his land in good order by carting on *gravel*, and carting back upon his land the mud, wash from the street, &c. A road once *well* made with gravel, will need but little yearly repair, and the wash of a road one-quarter of a

mile in length, will furnish 20 or 30 loads of good muck annually. DOCTOR.

West Norwalk, Conn., Dec. 9, 1857.

The Corn Stealer in a Trap.

The following story though an old one, is, like many other old things, none the worse for wear. We read this, or a very similar story, when but a boy, and it left a very lasting impression. The moral is a most excellent one, and the perusal of it by the reader, whether for the first, second, or the tenth time, will do him no harm.

A man had been in the habit of stealing corn from his neighbor, who was a Quaker. Every night he would go softly to the crib and fill his bag with the ears which the good old Quaker's toil had placed there. Every morning the old gentleman observed a diminution of his corn pile. This was annoying, and must be stopped—but how? Many a one would have said, take a gun, conceal yourself, wait till he comes and fire." Others would have said, "Catch the villain, and have him sent to jail."

But the Quaker was not prepared to enter into any such severe measures. He wanted to punish the offender, and at the same time bring about his reformation if possible. So he fixed a sort of trap close to the hole through which the man would thrust his arm in getting the corn.

The wicked neighbor proceeded on his unholy errand at the hour of midnight with a bag in hand. Unsuspectingly, he thrust his hand into the crib to seize an ear, when lo! he found himself unable to withdraw it! In vain he tugged, and pulled, and alternately cried and cursed. His hand was fast and every effort to release it only made it the more secure. After the tumult in his breast had measurably subsided, he gave over his useless struggles, and began to look around him. All was silence and repose. Good men were sleeping comfortably in their beds, while he was compelled to keep a dreary disgraceful watch through the remainder of that long and tedious night, his hand in constant pain from the pressure of the clamp which held it. His tired limbs compelled to sustain his weary body, fain would have sunk beneath him, and his heavy eyes would have closed in slumber, but no! there was no rest for him. There he must stand and watch the progress of the night, and at once desire and dread the return of morning. Morning came at last, and the Quaker looked out of his window, and found he had "caught a man."

What was to be done? "some would say, "Go out and give him a good cowhiding just as he stands, and then release him; that'll cure him." But no, said the Quaker. Such a course would have sent him away embittered, and muttering curses of revenge. The good old man hurried on his clothes, and started at once to the relief and punishment of his prisoner.

"Good morning, friend, said he, as he came within speaking distance. "How does thee do."

The poor culprit made no answer, but burst into tears.

"O fie," said the Quaker, as he proceeded to release him. "I'm sorry thee has got thy hand fast. Thee put it in the wrong place, or it would not have been so."

The man looked crest fallen, and begging forgiveness, hastily turned to make his retreat.—"Stay," said his persecutor—for he was now becoming such to the offender, who could have received a blow with much better grace than the kind words that were falling from the Quaker's lips—"stay friend, thy bag is not filled. Thee needs corn, or thee would not have taken so much pains to get it. Come, let us fill it." And the poor fellow was obliged to stand and hold the bag while the old man filled it, interspersing the exercises with the pleasantest conversation imaginable—all of which were like daggers in the heart of his chagrined and mortified victim. The bag was filled, the string tied, and the sufferer hoped soon to be out of the presence of his tormentor but again his purpose was thwarted.

"Stay, said the Quaker, as the man was about to hurry off having muttered once more his apologies and thanks. "Stay, Ruth has breakfast ere this; thee must not think of going without breakfast. Come, Ruth is calling!"

This was almost unendurable. This was 'heaping coals' with a vengeance! In vain the mortified neighbor begged to be excused; in vain he pleaded to be released from what would be to him a punishment ten times more severe than stripes and imprisonment. The Quaker was inexorable, and he was obliged to yield.

Breakfast over, "Now," said the old farmer, as he helped the victim to shoulder the bag, "If thee needs any more corn, come in the day time, and thee shall have it."

With what shame and remorse did the guilty man turn from the dwelling of the pious Quaker! Every body is ready to say that he never again troubled the Quaker's corn crib. I have something still better than that to tell you. He at once repented and reformed, and my informant tells me that he afterwards heard him relate, in an experience meeting, the substance of the story I have related, and he attributed his conversion under God's blessing, to the course the Quaker had pursued, to arrest him in his downward course.

Taking Honey to Market in Glass Boxes.

To the Editor of the American Agriculturist:

My Honey Boxes are essentially like those described by Mr. Quinby, but the best I can do is to get about one-fourth of them to Chicago—my nearest market—with the honey unbroken. I would like to ask the best mode of packing the boxes to prevent breaking the honey. My bees do well here. R. M. ROSE.

Berrian County, Mich., Dec. 3, 1857.

We submitted the above to Mr. Quinby, and received the following

REPLY.

The plan that we have adopted here is probably as good as any for water conveyance. All our carting is done on springs. The jolting of a wagon is more sideways than endways, and as the combs will bear more wrenching lengthwise than sidewise, we pack them, as far as possible, so that the combs shall stand across the wagon while riding. Cases are made that will each hold glass boxes enough to contain about 100 pounds of honey. Good handles are fastened to the ends of the cases. The glass boxes are packed closely to prevent sliding, and set in *bottom upwards*. The cases, when moved, are carried and carefully set down, not dragged or shoved about.

Getting honey to a distant market is a precarious operation, and water conveyance is undoubtedly the best, consequently we patronize the canal instead of the railroad. But perhaps Mr. Rose can not avail himself of water conveyance. Railroad hands have such a knack of "throwing things" which ought to be quietly carried, that whenever honey combs come in contact with them, it is quite sure to change to drained honey. Yet I think if packed as above, and *careful handling secured*, that it might be safely taken on the cars, especially if accompanied by the owner. It will not do to say to hands "be careful;" they cannot be made to realize how easily honey is spoiled by striking it against something else, or setting it down too hard. Let some one that understands the matter be along to take *one end* of the case whenever it is moved. M. QUINBY.

Number of Bees in a Swarm.

To the Editor of the American Agriculturist.

In the article "Wonders of the Bee-Hive," page 285 of the December *Agriculturist*, it is said:

"The number of bees in an ordinary swarm, may be estimated by actual weight. It has been found by experiment that a pound of bees contains about five thousand; and if one knows the weight of the hive in which he has put a new swarm, he can easily calculate the number of bees. * * It is to be noticed, however, that a new swarm on going from the old hive, is heavily loaded with honey, and if no allowance were made for this, the estimate of numbers would be too large."

Now in this "allowance," there appears to be a difficulty. What portion of the weight of a swarm is *allowed* as honey? A first swarm, leaving on a warm day, will be quite a different affair by weight with another of equal number, issuing on a cool day. In the latter case, nearly all will come from the interior of the hive, well filled with honey; in the other, a great many bees will have been on the outside for hours, if not days previous to leaving, and consequently, carry but little honey. Now unless the writer can give us some rule to separate the weight of bees from the honey, I see but little use in *guessing* at the number, by the weight. M. Q.

REMARKS.

Our correspondent asks a very interesting question which we are not prepared to answer. Careful observation alone can decide upon the weight of honey which 20,000 bees can carry. The opinion of M. Quinby, as expressed in his "Mysteries of Bee-Keeping Explained," is, that "a *large* swarm will probably carry with them some five or six pounds of honey from the parent stock;" but he adds "I only *guess* at this, because I am uncertain what the bees weigh exactly."

And by the way, in turning to his treatise, we notice that he had observed a fact mentioned in our November number, supposed at first to be an original discovery with ourselves, viz.: that in small families the queen sometimes lays several eggs in a single cell.

Whence comes the Cut Worm?—A Question to be Answered

To the Editor of the American Agriculturist.

Whence comes the cut worm, which is so destuctive to corn and potatoes, and especially to to the tobacco crop? The question was suggested by the following fact: A piece of ground, plowed early, with the intention of a second plowing, received instead a thorough harrowing, which, owing to the ground being very wet at the time, packed the soil so tightly as to make it difficult to hill it, and the harrowing was discontinued. The remainder of the piece, having similar soil and treatment, otherwise, was plowed in the course of a day or two, which left it mellow and light.

Now what had this to do with the worms which, on the plowed piece, cut down nearly every plant, at least once; and on most of the piece, a half-a-dozen times; while on the portion harrowed, and thereby packed, very few plants required resetting. SUBSCRIBER.

Cromwell, Conn., Dec. 14th 1857

Notes on Field and Garden Seeds to be Distributed to our Subscribers.

The list of seeds and manner of distribution are given on a subsequent page.

FIELD SEEDS.

1. WHITE SUGAR BEET.—This variety of beet is the one cultivated in France, for sugar-making. It is specially valuable for feeding stock; is a large yielder. Though not a novelty, we think many of our readers will like to try a small plot. As there are over 1,000 seeds to the ounce, a 3-cent stamp will cover about 500 seeds.

2. KING PHILIP CORN.—We distributed a large number of parcels last year, and nearly all reports received are favorable. Several persons have raised nearly a bushel from the seed sent under two 3-cent stamps. It has, in some of the reported cases, ripened in eighty-five days from planting; frequently in ninety days. As stated last year, it will doubtless prove valuable for late planting, in all cases, and especially when a quick growth is required. Having full faith in its value under such circumstances, we place it among our seeds for distribution. Owing to the heavy weight of the kernels, only about twenty-five of them can go under a single stamp. We will send what will go under one, two, or three 3-cent stamps, as may be desired.

3 STOWELL'S SWEET CORN.—As described at page 80, vol. XVI, this is a slow-growing, but excellent large sweet corn, often called "evergreen," on account of its slow and continuous ripening. Notwithstanding the past unfavorable season, our reports from the seed sent out last year are mostly in its favor, though not always so. We shall offer it again to any of our subscribers who may wish to test it or raise a supply of seed for next year. Fifty to sixty kernels in the half ounce.

DARLING'S EXTRA EARLY SWEET CORN has not been well reported on the whole, though a few have been decidedly pleased with it. It is an early variety, and very sweet Stalk and ear small. We do not place it in this year's distribution, but will furnish a few packages when expressly desired.

4. WHITE POLAND OATS.—The reports from last year's distribution are usually good—not in every case. This variety meets with so much approval that we shall offer it again this year. We have, as yet seen no sample of these oats which weighed less than 40lbs. to the bushel.

5. CHINESE SUGAR CANE.—We shall have a full supply of this seed for distribution, whenever desired. Many persons will wish to plant a small plot this year for experiment. We do not consider the question settled, as to how far it may be expedient to enter into the general culture, on a large scale. We refer the reader to the remarks on page 276 of the December number, and particularly to the note 12. ☞ We have hundreds of letters from subscribers, detailing their experiments during the past season. It would take half a month, with nothing else to do, to read, digest, and present a fair epitome of all those letters. Begging pardon for any apparent discourtesy in not referring to them, individually, we must hold them under consideration another month In our next number we shall take occasion to present a further carefully prepared statement, as to the prospects of the profitable culture of this plan in the Northern States. The result of our own experiments will also be given. The amount of seed offered to our subscribers is referred to on another page

6, 7. TURNIPS.—Ashcroft's Swede, and River's Swedish Stubble. Both of these varieties are described at length on page 292 of our last number, and we refer the reader to the article there given. A package of 800 to 1,000 seeds, or more, will be supplied to each applicant.

GARDEN SEEDS.

8. DANIEL O'ROURKE'S PEA.—The earliest pea we know. We have picked it for cooking in forty-three days from planting. Though not of quite as good a quality as the next three, its very early maturity makes it especially desirable. The vines are of dwarfish habits, and the peas of but medium size.

9. CHAMPION OF ENGLAND PEA.—One of the best peas for a general crop, and may well be in every garden. The vine grows tall, to 6 feet, and bears well. Peas large, shriveled, and fine flavor.

10. BRITISH QUEEN PEA.—Somewhat like the Champion of England in growth, form, quality, &c. Is new here, and promises very favorably.

11. HAIR'S DWARF BLUE MAMMOTH.—This pea we described on page 268 of vol. XV, as the best we had ever grown, for a late pea. It was ready for the table with us in 74 days from planting. This forms a most excellent succession with the three varieties above named.

12. GREEN KOHL RABI, OR TURNIP CABBAGE.—See description and illustration on page 209 of last volume (Sept. number.)

13. ENFIELD MARKET CABBAGE—Sugar loaf, or cone shaped, smaller than Drum head, very hardy and greatly esteemed in England for garden culture.

14. ALMA CAULIFLOWER.—A new variety said to be superior even to the Walcheren. Heads large and firm. A most delicate vegetable for table use.

15. MAMMOTH CABBAGE LETTUCE—An excellent variety, somewhat known, but not yet widely diffused. Noted for its firmness and great size.

16. LONG ORANGE CARROT.—The best variety for general culture. Well known. We offer seed in order to induce our readers to try a plot of this excellent and profitable crop.

17. RED STRAP LEAF TURNIP.—An American variety, one of the earliest or quickest growing we have. May be sown at all seasons, particularly after other early crops. It is the first, or one of the first varities of turnips brought to this market in Summer.

18. PATIENCE DOCK.—A good substitute for spinach, lasting for months. One of the earliest "greens" of Spring. See description in the December number. (vol. XVI page 292.)

19. ROUND OR SAVOY LEAVED SPINACH—Esteemed the best variety for Spring and Summer use as "greens"

20. SALSAFY OR VEGETABLE OYSTER.—Frequently referred to in these columns. Rightly cooked, it is one of the best roots grown for table use. It is in part left in the ground over Winter, to be taken up for cooking in Spring.

21. WINTER CHERRY—(See page 21.)

22. MAMMOTH SQUASH.—One of the best and largest varieties of squashes grown.

Turnips for Pigs.

This crop is more generally fed to cattle and sheep than to swine. For store pigs it makes a cheap and excellent feed. Our practice is to boil a large kettleful of them, and while boiling hot to mix in enough cob meal with them to make a thick mush. They thrive remarkably well on this article, and seem to do quite as well as if fed on cob meal alone. A root diet is much better for growing pigs than pure corn meal.

A Cheap Ice Room.

To the Editor of the American Agriculturist:

Having observed several articles in your paper respecting ice houses. I send you my experience. I partitioned off the northeast corner of my woodhouse, which opens to the west and is 25 feet wide. The ice room is about 9 feet square; is clap-boarded on the studs on the north and east, and lined on the inside, leaving the 4 inch space between, empty. On the south is an inch board partition just tight enough to hold saw dust. On the west, I slip in boards, like bars, to any hight I wish to pile my ice, and leave the upper part open just as is convenient. This is my house.

Into it, on the ground, I put from 6 to 10 inches of sawdust, then put in my *ice*, one foot from the partition on every side, packing it as closely as I can, and in as large blocks as I can conveniently handle. I then fill the spaces next the partitions with sawdust, and a good depth, (say one foot), over the top, and it is done for the year.

I have practiced in this way two years past, and had all I wanted for dairy and other uses, and to give to my neighbors, and I had plenty of good ice left last week.

The whole cost of making is about 300 feet hemlock boards, a few nails, and half-a-day's work. Neighbor farmers *try* it. Almost any other location is as good as this.

A. P. BELCHER.

Tioga County, N. Y., Dec. 18, 1857.

From a Southern Correspondent

Imfé'—Sorgum.

Masser 'Merican Ag'cultis'.

Sar: Dis boy 'casionally read your big paper, printed 'way off down in York—dat is to say young Masser John read it to him, which you knows is all de same. Bery well, sar, 'tis all right and mighty sure on Imfé, for dat is de way to spell him. Don't dis child know all about it caze his gran'fur come from Afriky, where Imfé fust growed. Wal, sar, dis boy hearn many writers is makin' powerful fuss 'bout dis, but I rekons dey knows nufin' at all on him. Did dey eber grow him, as my gran'fur has for ages? Den let dem hold der tongues till dey has. What we want in dis country is de prakital; we doesn't want no the'ries—dese doesn't do in *hard times*.

Wal, sar, to come to pints. Dis child says, fustly, we ha'int no such long summers here as dey has in Afriky, to ripen him well; we ha'int no such hot days nudder; derefore, by reason, Imfé is no good as Sorgum, which comes from colder climate, and am grown from Canada to Texas, Georgia, where dis child libs 'cluded.

Now, I says, hereforth per 'rash'nalé, cul'vate a mighty tall heap o' Sorgum—let Imfé 'lone 'specially when 'taint nufin but Durra; and always b'lieve in what Masser 'Merican Ag'cultis tell de public, and what is more, like dis here boy who writes, b'lieve in nufin else.

Sar, yours, specfully to sarve,

YOUNG GUINEA.

Articles on Cattle and Buildings.

A very valuable series of articles on Cattle now in course of preparation, will be commenced in the February number. A full series on Farm Buildings of all kinds will be commenced as soon as the drawings and engravings can be executed, probably by the March No.,—perhaps in February

Wonders of the Bee-Hive.

NUMBER VII.

It is a wonder that the bee, always true to the instincts given it by God, should be able to construct its comb with such perfect regularity and beauty. But it is no less a wonder that it should adapt itself also to special circumstances, and vary the form and size of its cells when occasion demands it. We have already described the two kinds of cells that are most commonly found in a hive,—the *worker* cell of unvarying size and depth, designed for the raising of brood as well as for the storing of honey and bee-bread, and the *drone* cell, which is the same thing on a somewhat larger scale. The eye soon becomes accustomed to these different cells, and easily distinguishes them from each other, and from those used exclusively for storing honey, which are sometimes an inch and a half deep.

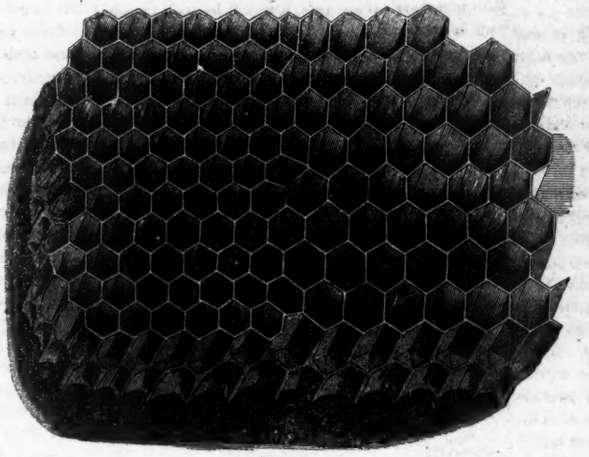


Fig. 1.

The accompanying illustration, (fig. 1), gives an accurate representation of both the worker and drone comb, of the natural size. On the right are seen the large six-sided cells for drones; on the left the smaller ones for common bees. But how can the two kinds be connected? Not without some irregularity, and so the bees, with strange forethought, in passing from one to the other, have built some five-sided and misshapen cells. The queen refuses to lay eggs in such cells, but they answer just as well for other purposes.

Many persons have never seen the egg from which the bee is produced, and we are happy to show them an engraving that will give them some idea of its appearance, and all the better for being somewhat magnified. The mother bee, responsible for the constant supply of eggs, from which a new generation is to spring, travels very diligently over the combs, selecting appropriate cells for the reception of her eggs, and as often as one is found to be in order, she thrusts in her *ovi-positor*, and after a few seconds withdraws it, leaving a tiny white egg, attached by one end to the bottom of the cell, (fig. 2). And with such wonderful instinct does a fertile queen act, as never to lay worker eggs in the drone combs, or drone eggs in the worker cells.

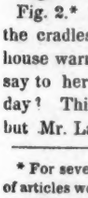


Fig. 2.*

The fertility of the mother-bee is remarkable, and it is well for her and for her young that she has no responsibility for the large household that owe their existence to her. She lays the eggs, leaving it to others to rock the cradles, feed the brood, and keep the house warm and clean. But what shall we say to her laying three thousand eggs a day? This would be about two a minute, but Mr. Langstroth says that in his observing-hive he has seen her lay at the rate of six a minute.

The illustration below, (fig. 3), throws some light upon this subject. It is a representation, of course *very highly magnified*, of what are called the *ovaries* of the qeeen, where the eggs are formed and kept until they are forced out into the cells. In these ovaries, (G, H, fig. 3), are many thousands of eggs, and as they pass out through the common passage way or *oviduct* E, they come in contact with the mouth of the general reservoir D, where they are fully impregnated, and then descend to the tip of the body. The sting is also represented in the figure; A being the poison-bag, and B the *rectum*.

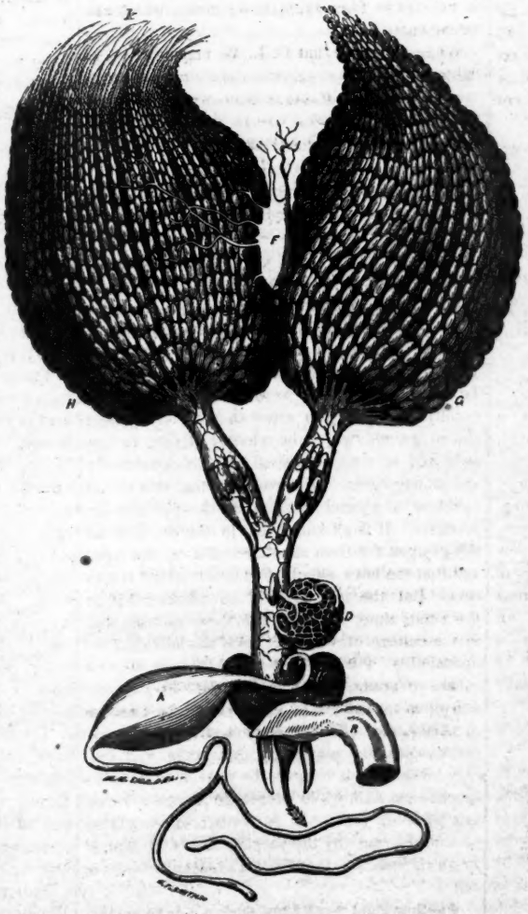


Fig. 3.

The eggs are not thrown together at random in these ovaries, but are arranged with as much regularity as peas in a pod. In fact, we may consider the *ovaries* as made up of a bundle of tubes, or *oviducts*, down which the eggs pass freely, but never across from tube to tube. And in these ovaries the egg receives its perfect form. It is not so with the eggs of birds. In a hen, for example, the *yolk* is formed in the ovary, but the *white* and the *shell* are added afterwards in the oviduct. Swammerdam, a careful and patient writer of the last century, from whose drawing our engraving was taken, counted at least *seventeen* large and small eggs distinctly visible in one of these ducts, and as the result partly of observation and partly of computation, he supposed there were no less than 300 of the ducts. At this rate there would be at least 5100 visible eggs at the same time in one mother-bee. Those that are to be laid last are less in size, and at the extremities of the tubes the rudiments are so small as to defy our powers of vision, and they "can be numbered by Him alone who formed them."

Our engraving represents a double ovary. It will be noticed that the two parts are represented as differing from each other. This is not exactly according to truth, though copied from nature The ovary G is represented in a condition somewhat more advanced than the other. The extremities of the tubes are better filled, and lose the thread-like appearance that they have at an earlier period, as shown at *k* in the ovary H.

The reader will notice an oblong bladder, F, between the ovaries, with a few branches extending out among the eggs towards H. This is an air vessel, and its ramifications really cover the whole surface of both ovaries, reaching indeed every egg. The bees do not breathe, as we do, through mouth and nostrils, but through holes in the sides of the abdomen, and the apparatus of which we are speaking, is in some way connected with the function of breathing, and with the conveyance of air to every part of the frame. The lines seen when we hold a bee's wing up to the light, are also air tubes. The ovi-positor itself does not appear in the engraving, being covered by C, the muscles that move the sting.

The history of the egg from the moment it is laid until its transformation into a perfect bee is completed, has been carefully studied with the aid of the microscope, and is very curious. The observing-hive gives every facility for observation and experiment. The egg remains unchanged apparently for about three days; and sometimes for a longer period, if the temperature of the hive is low. It is then hatched, and a careful observer, watching at the right moment, would see the process as distinctly as the hatching of a hen's egg. The living worm that issues from the egg, remains at the bottom of the cell, a small white object, curled up like a lap-dog. It grows rapidly

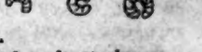


Fig. 4.

being fed by the bees, and from day to day assumes the different forms represented in fig. 4.

* For several of the illustrations in this series of articles we are indebted to Langstroth's "Practical Treatise on the Hive and Honey Bee"—a work we have heretofore, (Vol. XVI, page 141), recommended as of great value to every one interested in Bee Culture.

A Further Talk on Farmer Clubs.

[Scarcely had our article on this topic, in the Dec. No., gone to the stereotypers, when the following came in from a distant contributing Editor. This subject is an important one, and can not be too often referred to.]

Now is the time to establish one in your town. Perhaps you can make up one from two adjoining school districts. Hold the meetings at the most central school-house, or alternately at each other's private houses. Agree on a few simple rules, appoint officers, fix on some subject for discussion at the first regular meeting, and your "Club" is in existence. Now is just the time for moving in this matter, before the Winter has progressed any further, and while the results of last year's observations are fresh in your recollection.

The social benefits of such Clubs are considerable. Most farmers, from the necessities of their position, lead solitary lives. They spend nearly all their time in the field, or about the premises at home, finding little leisure for visiting. Their familes, also, are much isolated from the world; they make few acquaintances out of a very narrow circle, and acquire few of the graces of cultivated society. The associations we now plead for, will bring the farmers of a town together often, and their families will follow the example. The result will be the forming of many friendships, more general intelligence, and more polished manners.

2. Consider, too, the information acquired at such Clubs. There is much agricultural knowledge to be gained outside of books. Young farmers, especially, and new residents, need to learn from the older settlers the particular wants and capacities of the soil they are just beginning to till, and the peculiar influences of the climate on the crops and fruits of the neighborhood. If any one has tried a useful experiment, he can here report the results for the benefit of others. There is much, also, to be learned from books. Let the subject for discussion be previously fixed upon, then all the members can employ their leisure in reading upon that subject. When they have read and thought, and talked upon that topic, they will find they have acquired definite and valuable information concerning it, which they will never forget. There is a certain best way of performing every agricultural operation, and there is a good and sufficient reason at the bottom of it, and every farmer should be thoroughly "posted" in regard to both.

3. These Clubs awaken in neighborhoods a healthy spirit of emulation. The tendency with most farmers, as indeed with men in other callings, is to fall into a slip-shod mode of doing things, satisfied with only acquiring a comfortable living. But let them meet together frequently and compare notes, and at once they begin to feel a new interest in their chosen pursuit. Learning of improved methods of farming they feel desirous to adopt them. They see there is room for improvement, and they feel ambitious to make commendable progress. We believe it will be found true that where Clubs have been annually well sustained, there a general spirit of improvement has manifested itself, in better crops, fences, buildings, utensils, and even roads.

We say again, now is the time to organize Farmers' Clubs. While you are resting from the severer physical toil of the year, let your thoughts be active in this good work. Store your minds with valuable information, as bountifully as your granaries are stored with the products of the field. Supply your book shelves with standard treatises on the management of horses, cattle, sheep, swine, poultry, grains, grasses and fruits. The Transactions of the Agricultural Society of your own State will not come amiss, and something can be gleaned from those portions of the Patent Office Reports which pertain to agriculture. It might be well to tax your Club $1 a head to purchase a small library for the use of all the members. If not this, it would be well to subscribe for a number of the leading agricultural and horticultural journals of the day. But by all means organize a Club forthwith, and we warrant that you will reap substantial improvement from it.

Boys upon the Farm.

HINTS TO PARENTS.

D. L. W., of Beacon Falls, Conn., sends us a lengthy communication, from which we glean the following:

Which shall be the farmer?—An example is given, where a farmer having but little land, put one of his two sons to a trade, much against the lad's own wishes, while the other, against his inclination, was retained upon the homestead to take care of the parents in their old age. The result was, the elder son served his apprenticeship and worked at his trade twelve years, when he secured a farm and returned to his coveted pursuit. The younger son remained at home until twenty-one, and being then free to act for himself, he quit the farm in disgust, and went to a favorite trade, which he still pursues. The parents remain alone upon the homestead. The argument drawn from this example is, that fathers should exercise great care in studying the natural tastes and propensities of their sons, and not attempt to arbitrarily force them into pursuits which are uncongenial.

While we admit that D. L. W. may be partially right, especially in suggesting the exercise of much careful discretion in this respect, we would by no means encourage parents to yield to the whims or caprices of boys while having yet too little knowledge of the world and of themselves, to know what they really wish to do. There is not a lad in twenty that does not take a fancy to at least half a dozen different pursuits, before he reaches the age of sixteen or eighteen.

HOW TO ATTACH BOYS TO THE FARM.

We endorse more freely the closing part of the letter before us, in which it is recommended to parents to endeavor to create a real taste and love for farming on the part of each of their sons. To do this we agree with D. L. W., that it is usually good policy to allow to each boy a small plot of ground, which he shall cultivate as his own, and of which he shall have the whole care and management. We conceive that this would develope a special interest in the soil and its products. It is all very well in theory, that all things upon the farm should be held in common, and that the boys should feel that this and that is *ours*. But the interest will be quickened if, at the same time, the boy has the smallest plot, in the culture of which he feels an individual responsibility. He will thus be led to *study* the best means of promoting its production. He will reason upon the subject of manures, the best modes of tillage, &c. He will consult with others upon these topics, and acquire an interest in soil culture, which would never be developed by mere mechanical toil while others do all the thinking and planning for him. A similar effect will be produced by having the special care of an animal or an implement, in which a personal interest is felt.

Another good result from such a course is, that many hours usually devoted to play, or associating with evil company, would be diverted to useful exercises. As bad as some hypochondriac people are disposed to consider the boys of the present generation, there are few of them who would not cheerfully save many hours, now worse than wasted, if they had a plot of ground of their own, from which they were to have the whole proceeds.

It must be evident to every one, that a plan, like the one here recommended, will have a decided tendency to develope *habits* of thrift and economy. With proper oversight the lad may also learn much in reference to the course of trade, the laws of supply and demand, &c. If he have but half a bushel of potatoes to dispose of, he will very naturally watch the movements of the market, with reference to the best time to sell. Instead of losing an interest in the general business of the farm, he will study this all the more carefully, in order to draw conclusions as to his own course.

Milk Can be Concentrated.

After many failures in the attempts to concentrate milk, so that it may be conveniently carried any distance to market, and preserved in this state for a long time, we are inclined to think success has at last been obtained by Mr. Gail Borden, Jr. We have tried the milk prepared by the new method, and are much pleased with it. But first of the process.

The milk, fresh from the cows, is deprived of its animal heat by putting it in large cans of six or eight gallons each, immersed in ice-cold water. It is then subjected to a heat of 160° to 190°, that is a little below the boiling point and next transferred from the cans to a large closed cast iron vessel, where it is heated by steam no higher than 120 to 160 degrees. The air is pumped off from the surface, which of course produces very rapid evaporation, even at the low heat of 120°, and avoids cooking the milk. The vapors, consisting of water from the milk, are removed as fast as they rise, by means of the air pumps. The constant removal of the pressure of the air and vapors produces so rapid an evaporation that 500 quarts of milk in a boiler are reduced to one-fourth, or 125 quarts in the short space of one and-a-half hours. The liquid thrown off by evaporation is clear, like water, but has a sickish unpleasant taste, and disagreeable smell. It is thought the separation of this from the milk renders it purer and more pleasant.

The concentrated milk is a viscid mass, thicker than cream. This is put into cans, sealed up and sent to market. To use it, it is only necessary to restore the water removed by the condensation. During the Summer we made trials of the milk, brought from Winsted, Conn., the location of the manufactory, and found it every way equal to new milk when stirred with four times its bulk of water. It has the taste of boiled milk, but this is no detriment to those accustomed to using boiled milk. We may here remark that milk should always be boiled before use. For our own part, we should about as soon eat raw flesh as raw or unboiled milk, and we think this will be the experience of any one who will adopt the practice of boiling all milk designed for food.

The milk concentrated by Mr. Borden's process, and sealed, can be kept for a long period, but after opening to the air it spoils in a few days. During the hottest Summer weather we kept a can of it open for four days, in a common ice chest, and found it still good. It must be invaluable for carrying to sea.

This matter is an important one to farmers. We see no reason why a factory may not be located in any good grazing regions, even at the far West, and the milk concentrated there be sent to the New-York or other markets, and sold at a

low rates as it is now furnished by milkmen in the immediate vicinity of this city, with a profit to the farmers and manufacturer, and to the decided advantage of the consumer.

Suppose, for example, that we have a factory located in Ohio. The manufacturer pays the farmer 2½ cents per quart—add 1 cent for condensation and profit, ½ cent for cans, and ½ cent for transportation. The result would stand thus:

100 quarts of milk at 2½c.....	$2 50
Condensing & manufacturer's profit	1 00
Cans (to be frequently used).....	50
Transportation of 20 quarts (condensed).....	50
Cost of 100 quarts delivered in New-York.....	$4 50
Add for commissions, &c.....	50
Total.....	$5 00

Equal to 5 cents per quart for 100 gallons.

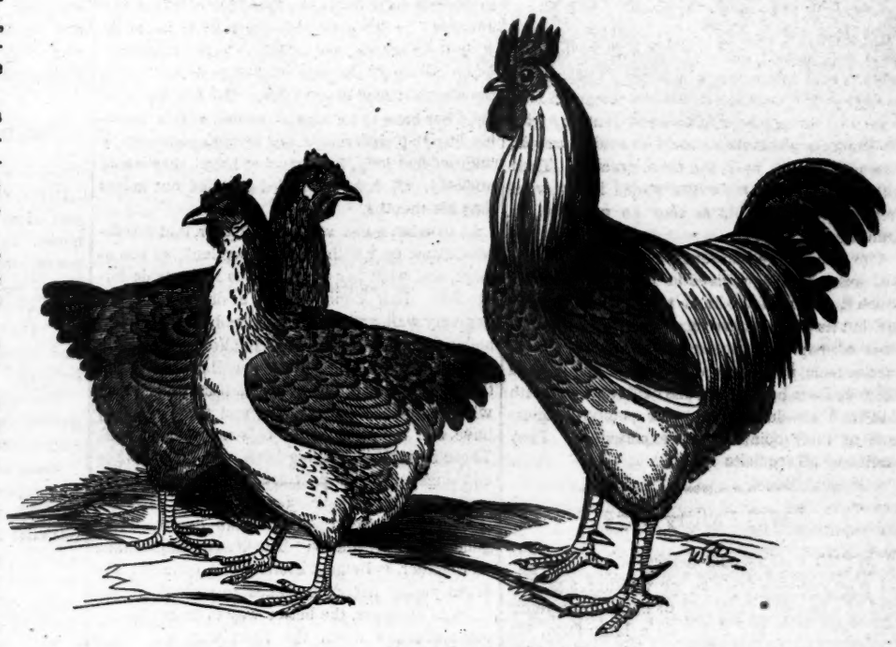
We have given these figures for illustration only. They are doubtless higher than would be necessary if the business were carried on upon a large scale. But with this estimate we have good milk delivered to the distant consumer at 5 cents per quart, while the producer gets 2½ cents, which would pay him a better profit than butter or cheese making. For our own use we should certainly prefer the 100 quarts obtained by adding 80 quarts of water to 20 quarts of the concentrated milk, than an equal quantity of the best milk sold in New-York as "pure Orange County."

The Inventor of this process, Gail Borden, Jr., is a quiet, modest man, more disposed to make improvements than to derive after benefits for himself—had not this been the case he would have been immensely rich from his "Meat Biscuit" invention. But we write not for or on account of Mr. B., but to call attention to the process itself, and to elicit further information as to the practicability of establishing manufactures in different parts of the country. The concentrated milk is on sale at 173 Canal-street, in this city, and those desiring information can address Mr. Borden at that place.

Saw-dust for Littering Stables.

This is quite valuable to absorb the liquids and to prevent the foul odors arising from stables. If ammonia is one of the most powerful fertilizers, why should not the greatest pains be taken to save it? For this purpose, saw-dust is just the thing. It is useful, also, on the score of the horse's health and comfort. It is injurious to an animal's feet to stand in the liquids of his stall: it is hurtful to his eyes and his stomach, and his lungs, to remain long in an atmosphere charged with the powerful vapors arising from those liquids. We wonder that the poor creatures stand it so well as they do. Dry muck answers very well to scatter daily in the stables, though saw-dust is much neater. It is quite important, however, in clearing out the stalls daily, to mix a little muck or plaster with the saw-dust and manure to prevent the whole from violent fermentation. *

To GIVE BRILLIANCY to the eyes, shut them early at night and open them early in the morning; let the mind be constantly intent on the acquisition of human knowledge, or the exercise of benevolent feelings. This will seldom fail to impart to the eyes an intelligent and amiable expression.



SHANGHAIS.

A Plea for Shanghais—Selling Eggs by Weight.

To the Editor of the American Agriculturist:

Much has been said about shanghai's, and the shanghai fever in times past, but we hear very little on the subject at present. Some of the would-be-wise, and those that have never tasted them, have more to say, I find, than those that have had some experience in the matter. Now to those who have never seen or tasted them I would say, they are more valuable than any other kind of fowl that I have kept. As to size, they are worth as much again as the small kinds. Any one having a roasted fowl weighing eight pounds is not to be laughed down by those not having such a luxury. The shanghais are more juicy than any other kind and for that reason better to roast, and a large one is better than a small one of any breed.

I have kept the "Everlasting Layers," the Maylays, Topknots, Dorkings, and all the common and uncommon varieties of color and kind. I have had shanghais to lay at six months old, and you will see but few others that will lay at that age. Their eggs are larger and weigh more than those of common fowls, and in consequence I shall sell no more by the hundred or dozen as is customary, but by the pound as beef is sold. We find these eggs cheaper even at two dollars and a half per hundred, than beef at fifteen cents per pound, especially if tough at that.

Here is another point. I can keep the shanghais out of my garden with a fence one lath high, which makes a very cheap fence. Now, sir, it makes no difference how fat and good natured a man is, it is very trying to his temper, especially if a little nervous, when he has made a garden and the seed is just coming through the ground, to have the hens begin their labor of scratching it out without asking where to begin. Why, sir, I have been more plagued with the small species of hens, than they are worth the whole season, hens, garden and all.

Now then comes the objector, who says sneeringly, "I don't want your great long legged fowls that cannot stand up alone." I say there is no reason why you should have them, if you are afraid to pay for the pure blood and are waiting until there are a few more crosses, or till they get a little cheaper. To such a man as this, I would never sell cheap, but would rather give them to some one who knows how to value them. I can say for the information of such, that I have shanghais as short legged as any of the small kind, and they weigh twice as much; and as to their meat which is said to be very coarse, I could see but a slight difference. I have eaten them at all ages, and find their meat sweet and juicy, and second only to a turkey for a roaster. As to the shanghai fever, some men have been excited it is true, but that has nothing to do with their real worth. The last poultry show I attended at Albany, N. Y., I was surprised to see the improvement in fowls. I did not find a poor fowl there. So much for good breeding. The poor breeders did not bring their fowls there knowing it would be useless. We will go on improving, and at the next show I expect to see better fowls still. When eggs sell for three cents apiece in your city, I think it would be more profitable to keep hens that lay ten months in the year like the shanghais, than those poor little common fowls. When I hear something from your friends that do not like shanghai fowls and eggs, I may say something more. S. G.

RHINEBECK, N. Y.

REMARKS.—This is the kind of talk we like. If a man has got a good thing that he wants the world to have, let him tell of it. If our friend has such shanghais—we don't doubt it—he has got a good thing. We have had a somewhat long experience in fowl culture, but we honestly confess we have not fancied the shanghais at large, although at the State poultry show at Albany, of which he speaks, as well as that which followed it at Barnum's Museum in this city, the week afterwards, we did see specimens of that breed which surprised us by their fine breeding and appearance. They were truly noble birds and could we always have such as those, with all the good qualities our friend gives them, we should be quite content.

We do not, however, see the virtues of a particularly *large* chicken for the table. A chicken is not a turkey; nor can you make it one in taste

and flavor by any process whatever. Still, like a Short Horn among cattle, the shanghai among fowls may be early matured and well fattened, if properly bred in shape and quality. The size of its eggs is well, too, if it do not cost too much food to get that extra size, and we accord entirely with the suggestion that they should be sold by *weight*, instead of by *tale*, as is the usual practice. Then both the seller and the buyer would know what they sold and bought, as they do not now, in counting them out.

The *furor* of the hen fever is past, to be sure, not, perhaps, to be revived in the intensity with which it pervaded the land three or four years ago, but its effects have been profitable. Thousands of people who before that knew no difference in hens, now know what a good one is, and will keep them henceforth, and cultivate them with skill and assiduity. Let our poultry fanciers send us their opinions and experience. They shall have all requisite room.

Will Poultry Pay?

To the Editor of the American Agriculturist.

I wish you would advise me whether a poultry yard can be made profitable or not. I am a young man, living with my father on a large farm, but being in poor health wish a business requiring light labor. We are 15 miles from Cleveland, where eggs sell in Summer for 10 to 15 cents per dozen, and in Winter for 15 to 25 cents per dozen. Chickens sell for 12½ to 25 cents each, according to the season and size of the chickens.

What profit can be made on each hundred hens, and can a person, by keeping 600 or 1,000 fowls, make it a profitable business? How much will it take to keep a hen a year, and how much will they yield, on an average, in eggs and chickens?

What treatise on poultry do you consider best, and can I procure it through you? S. A. B.

Chagrin Falls, Ohio.

Reply.—As a general answer to our young friend, we cannot advise him to go into the keeping of hens on a very *large* scale. We have seen several trials of the kind, where five hundred to a thousand were kept together, even with large accommodations in the way of building and yards, and they turned out, after a few months, total failures. There are no creatures in the world so prone to originate diseases among themselves as poultry. They need pure air *all* the time. They require a change of food, both vegetable and animal. They must have range for exercise, and that almost daily. They must be kept clean in their habitations. Dirty quarters breed lice, and lice will in a short time destroy the fowls. With a good range, as many as one to three hundred hens may be kept on a place; but they must be allowed to run at large daily, with plenty of *scattered* accommodations to make their nests in. They love *secrecy*, and although gregarious at times, they love to be apart in making their nests, sitting on their eggs, and bringing up their chickens, and such opportunity they must have to be successful in either.

We once knew a housewife in Southern Ohio, who kept three, four, or five-hundred hens—indeed she, herself, did not know how many. But they had all they wanted of a thousand acre farm to range in. They roosted all about the corn cribs, under the sheds, and in the barns and wagon houses, and on the fruit and other trees, near the buildings. They fed at the corn cribs, and at the oat bins, and stacks. They laid "all over," set where they pleased, and brought up their chickens at discretion. To be sure, the old lady looked after them, but they gave her "a deal of worry," as she told us; but as she loved her chickens, she endured it. She gathered eggs daily by the bushel, in their season, and sold them by the thousand, while during all the year "chicken fixins" were the plentiest food of her table. But had she confined her hens to an acre of ground, with a building fitted up with roosts, and laying apartments, a hundred feet long, by thirty-feet broad, they would probably, all have dwindled and died out in less than six months.

As to what a hen will eat in a year, that will depend much on whether she be confined, or run at large, and what her opportunities for outside forage are. Half a gill of corn a day will keep a hen very well, and if a good breed, she will lay, under fair circumstances, a hundred and thirty eggs a year. Some say they will lay more, but this is probably a fair average, it depends somewhat on the accommodation, and the food they have, and the profit can be only made up on trial. There is profit in keeping hens, we know, when all things are well provided for them: without such provision they are a nuisance.

There are several poultry books extent—some good—some worthless. The best we think, taken all together, is Bement's late work (price $1 25). If our young friend concludes to embark in the chicken business, the better way is to get his accommodations up in the right way, and begin moderately. His own experience after a few months will then decide whether it is policy to enlarge his stock or not.

The Best Goslings.

Thanksgiving, Christmas and New-Year's, with all their pleasant associations are past, it is true; and so are their feasts, and their merry-makings; but a few of the fine fat goslings which graced and loaded their tables are yet left, and of these we have a word or two to say before the last year's flock are all sacrificed.

Now, a common goose, rambling about the streets, highways, and other people's fields, we consider little better than a common nuisance; and none but those who have proper accommodations for them, both in pasture, and water should keep them. But a goose may be bred for table purposes, perfect in its kind, and where the conveniences exist, with little trouble. The fancy breeds, such as the Chinas, Africans and Bremens, are shy breeders. They lay too early in the season; their eggs are apt to be chilled, and the produce usually are few in number.

Therefore, we would not recommend them to those who wish a fine flock of goslings for the table. But take two or three good common geese, and put with them a China, African or Bremen gander, and you have the material to breed the finest young birds imaginable. They couple with entire freedom; the geese lay at their usual season; their eggs are just as prolific as if bred to the common gander, and the goslings are twice as good, and much larger, finer fleshed, and with the same food, fatter. We have tried the experiment for several years past, and know the fact. The fancy bird is of better shape for taking flesh on to the carcase, being longer, rounder, and plumper. It is next to impossible to cover the breast bone of a common goose with flesh, while the other will pile it on wonderfully—fat and delicious—and the hybrids partake, in that item, of the foreign parent. Try it, you that love a tender roasted gosling, and you will be convinced of the fact.

An Irish knight was once disputing with a French courtier as to the age and standing of their families, when the latter as a finisher to the argument, said that his ancestors were in the ark with Noah. "That is nothing," said the Hibernian, "for at the deluge my forefathers were cruising about *in a boat of their own.*"

Poultry Disease at Rock Island, Ill.

To the Editor of the American Agriculturist.

In the Spring, I had hatched out over 150 chickens. I gave each brood a small weather-tight house, and a yard 8 by 3 feet. Fed them fresh water, wet corn meal, potatoes boiled, bits of bread, and such like, with grass and clover. But 9 out of 10 died.... This Fall I had hatched some 75. These I turned out about my lot; they have had access to all kinds of vegetables, and have been well fed, but with the same result as above.

The symptoms of the disease are: First day a general dullness, and second day they drop their wings, hunching up their backs, and die.

Some of my neighbors said they had lice. I examined them, and found none, still I greased some in the Spring and this Fall thoroughly. I opened *one* after death, and found no worm in his throat. I have given them sulphur in their corn meal with no effect. The only thing I can discover is, that though fat, when dead there is nothing to be found in their crops.

I have tried all kinds of grain, and everything I could gather from poultry books. Please enlighten a subscriber, and Rock Islander.

Remarks.—Our Rock Island friend is certainly in bad luck chickenward. If he has consulted the poultry books, and found no remedy for the strange disease he describes—and of which we never heard the like before—we know not what to advise him. In our own poultry-rearing we recollect to have had occasional cases perhaps akin to those described, but never beyond a very few, and no account was taken of them. Is there not some local influence in and about the soil, or something which it bears that troubles them? It hardly seems probable, however. Although not able to relieve our friend of his difficulty, if any one of our readers can do so, we will be obliged to him, and cheerfully publish the remedy.

Experience in Potato Culture.

A trial of wild seedlings of South America—Experiments to prevent the Potato rot—Comparative value of several varieties.

To the Editor of the American Agriculturist

I noticed in the December *Agriculturist* an article on the Potato Rot. I can give the correspondent of the N. E. Farmer, referred to, the result of *one* experiment in raising Potatoes from South American seed.

In the Spring of last year, (1857), I procured a barrel of Potatoes which were grown very many miles above Buenos Ayres and not far from the confines of Chili. They were small in size and not a superior potato for cooking, as the few we tried proved watery. They were planted on new lands on the 24th of April in drills 3½ feet by 18 inches, and manured with compost, at the rate of 8 cords per acre, part of it spread and plowed under, and part put in the drills. The compost consisted of horse manure, meadow mud, leached ashes, and a little night soil. I find by my journal they were up several days in advance of the Dover or Danvers seed. On the 10th of August, find a memorandum, that the South American Potatoes were looking finely, with plenty of *seed balls*, and the stalks healthy but of a lighter green than the other vines. From that time to the 25th, we had many wet days, and on the 18th found symptoms of rot amongst all my potatoes which increased

until it nearly destroyed my whole crop excepting the earlier ones which had previously been marketed. I only saved about the seed that was planted of the South American variety, and they were no better than the original, being watery and tasteless. So much for one experiment.

I also noticed your remarks on the Dover and Danvers varieties, and agree with you—they nearly resemble each other excepting the eye in the Dover is shaped like the letter V. I have raised very many kinds of Potatoes, and give the Dover the next place to the Carter for eating—and they have yielded more than any other of the better varieties of the potato family.

There was one curious circumstance attending the rot on my vines, which it is impossible for me to explain. On the 2d of April we cut some Carter and Dover potatoes for seed, and on the 6th planted ½ acre of Carters, and on the 9th ½ acre to Dover seed, leaving a space between the two of 11 feet for some rows of cauliflowers. Not having Dover seed enough to finish the last row nearest the Carters, we put in 30 hills Carter seed—to my surprise these last showed very little of the rot, (whilst the other two lots were so nearly destroyed that we plowed them in) and the 30 hills yielded nearly one bushel of sound Carter potatoes with very few rotten ones among them. The soil, cultivation and manures were the same as the others. The rot has usually made its appearance, when a few hot days have been followed by a cold rain. Such has been the case with us the past year. We have often saved our crops by planting the earliest varieties and getting them to market by the middle or last of July, which will not allow a full crop, but we obtain much better prices than later in the season, and often when a part of the crop has been planted very late they have escaped. Potatoes seldom rot on land that has been newly cleared and the wood burnt on the ground. Pasture land, broken up and planted without manure has often saved us our Winter potatoes. A brother farmer planted his potatoes in tan, and for two years they were sound, but the third year tan proved of no avail. I have mowed the tops, and have tried plaster and lime, but never saw much benefit. I procured some seedlings of two years from the balls, thinking new seeds would prove a protection, but the rot came nevertheless. I have never seen any experiment that stood the trial of four years and proved a protection, and have come to the conclusion that except on newly burned lands, the season being alternately hot and wet, potatoes will rot, in a greater or less degree. SALEM.

Galls on Horses.

An ounce of prevention is worth a pound of cure. It is bad economy to use a poor harness. The collar, especially, should always be in good condition. It should be frequently washed and oiled; an occasional pounding will keep it soft and in good shape. Whenever it becomes thin or broken, pads should be worn underneath it.

Galls are occasioned, often, by putting horses to hard work all at once, after a period of rest, as in the Spring, after the rest of Winter. As a means of preparing the horse for such work, it is well to bathe his breast and back with a solution of alum and whisky for several days before the labor begins. It is well to use this preparation also at any other time when the skin seems tender. We have known small sores to heal up entirely under the use of this remedy, even though the horse was kept at work.

It is another excellent preventive of galls to bathe the shoulders and breast of a working horse once or twice a week, at night, with salt and water, washing off the same with pure water in the morning.

When the skin becomes badly broken, a horse should be allowed a few days rest; or if work is very pressing, the harness should be so padded as not to irritate the sore; otherwise, it will be vain to expect a cure. Some of our neighbors use white lead, mixed with linseed oil, (common paint,) to cure galls. And they often succeed with it: at least they get a hard incrustation over the broken skin. But we hardly fancy this *tanning* a horse's hide while he is yet wearing it.

Bush and Root Pullers.

J. M. Clark writes that he lives in Wisconsin, on the dividing line between the prairies and wood lands, where the ground is covered with a great amount of small bushes of various kinds, and inquires for the best implement for taking them out. If not too large, we know of no better implement than the one figured above. These are made entirely of wrought iron, and are constructed with two, three, or four fingers, or hooks. A chain is attached to a hole in the forward end. The hooks and shafts should be made strong. The weight usually ranges at about 25 pounds for two hooks, 37 pounds for three hooks, and 50 pounds for four hooks. They are sold ready made at most agricultural stores for about 12½ cents per pound, or $3 to $6, according to size and weight. They are especially adapted to alder and willow bottom lands. Turned upon the back they can be drawn around by the team from point to point, and turned over to catch a root or clump of bush whenever required.

Setting Fence Posts.

We hear frequent complaints of the perishableness of fence posts set in the ordinary way. And to the suggestion that the lower end of the posts should be charred, it is replied that while charring benefits the outside of the timber, it cracks it open so that water penetrates the wood still further, and causes a rapid decay in the interior.

Let us, then, make another suggestion. Char the lower end of the post for eighteen inches or two feet, so that about six inches of the charred part will be above the surface of the ground. Have in readiness a kettle of hot coal tar, (a cheap article,) and plunge into it the lower end of each post; or apply the tar with a brush, taking pains to get it into the crevices. A second application is desirable, as soon as the first becomes dry, and will make the timber water-proof for many years.

To Prevent Snow Drifts by Fences.

Such drifts are generally caused by an eddy or lull of the wind, occasioned by meeting with high or tight fences. To obviate this, one can either take down his fence at the approach of Winter, or, what is better, build a very open fence which will not obstruct the wind. A wire fence will answer a very good purpose, but as this does not always work well in other respects, the same end may be gained by building a fence with quite narrow boards. Have them sawed one inch thick and four inches wide. Set the posts firmly, three feet in the ground. Leave a space of three inches between the bottom board and the ground; four inches between that and the second board; five inches between the second and third; seven inches between the third and fourth, and nine inches between the fourth and fifth. This makes a fence four feet and a few inches high, which answers every purpose of protection, and does not occasion the formation of snow-banks. Considering the great inconvenience, and even danger, caused by drifts, which are often piled up along the highway, in some localities, above the neighboring fences, we think this suggestion an important one.

Luck in Farming.

There are few words oftener upon the lips of a certain class of farmers than *luck*. Smith is a "lucky dog," because his corn never rots, his wheat never Winter-kills, his sheep never get into his rye, and his cows never invade his meadows and orchards. His crops are better than his neighbor's, his butter brings more in the market, and even his wife and children have a more contented look than other people. Every thing he touches thrives. What a lucky man Smith is!

Now, the fact is, luck has nothing to do with Smith's success in life. If you watch the man, you will find that every result he reaches is anticipated and planned for, and comes of his own wit and work. It is the legitimate reward of his labors, and it would have been bad luck, if it had turned out otherwise. His corn always comes up, because he always selects the seed himself, and hangs it up by the husks in the garret where it is thoroughly dried. He does not plant until the sun has warmed the soil enough to give the germ an immediate start. He drains his wheat fields with tile, and the water that used to freeze and thaw upon the surface, and throw the roots of the wheat out, and kill them, now passes down into the drains, and runs off. His fields are green and beautiful in the Spring, when his neighbors are russet, brown and desolate. His fences are in good repair, and his animals are not made breachy by the continual temptation of dilapidated walls. His wife and children are comfortably clothed and fed, and are not kept in a continual fret and worry by a husband and father, who has no system or energy in his business. "A time and place for every thing," is his motto carefully carried out. The Shoemaker is always called in when his services are needed, and none of his household get wet feet, catch cold, have the lung fever, and run up a doctor's bill of twenty dollars, for want of a cent's worth of leather at the right time in the right place.

Smith does not believe in luck. He knows that health in the family, and thrift upon the farm depend upon a thousand little things, that many of his neighbors are too lazy or careless to look after. So while they are at the tavern, or loafing in the village, or running a muck in politics, he is looking after these little things, and laying his plans for next year. He has good corn, even in the poorest year, because the soil has the extra manure it needed to bring out good, long, plump, well capped ears. He meant to have 80 bushels to the acre, and he has it, good measure, and running over. Talk with him about luck, and he will say to you:

"It's all nonsense. Bad luck is simply a man with his hands in his breeches pockets, and a pi-

in his mouth, looking on to see how it will come out. Good luck is a man of pluck to meet difficulties, his sleeves rolled up, and working to make it come out right. He rarely fails. At least I never did."

Smith is right. *Attend* to your business, and you will have good luck.

The Alderney Cow.

Why do not some of our wealthy gentlemen, living in their snug and pleasant country places, give us, now and then, the results in milk, cream, and butter, of their docile little pets, the Alderney cows? We have seen the Alderneys, both at their own homes in the places aforesaid, and at the cattle shows, where they have been exhibited for the past dozen years; and although we have always heard them praised for their yields of rich milk, and delicious butter, do not recollect any instance where the measures and weights have been stated, on this side the Atlantic.

That the *true* bred Alderney is a little, inferior, funny-looking beast, when compared with the short-horn, or even the Devon, we know. But ewe-necked, saddle-backed, and sickle-hammed as she is, she shows both blood and breeding. Her head has the fineness and graces of the elk, and her eye the quickness and brilliancy of the gazelle. She is gentle as a pet lamb, a dear lover of home, and an ornament to the home-park or the paddock. Then why not let us know more about them, you gentlemen, and suburban farmers, who treat yourselves with their keeping? Numbers of them have been imported in past years, by our friend, Mr. Taintor, of Hartford, Connecticut, and some others. They have increased and multiplied, and are now scattered over a wide region of country in the Atlantic states. It will be for the interest of those who have time to spare, now and then, to let the public know their virtues, and they have only to send us properly made-up accounts of their feats at the pail and the churn, and we will spread them broadcast over the country.

Churning New Milk—A Dairy Manual Wanted.

To the Editor of the American Agriculturist.

If you should deem it of general interest will you print a statement of the process and profits of churning *new milk*. The statement should include time of the year, feed of cows, measure of milk, (whether "Wine" or "Beer" measure.) The coming Winter will be a proper time for publishing in season for preparation before Spring.

Geauga, Co., Ohio. L. E. KENT.

REMARKS.—We expect to give a series of practical chapters on butter and cheese making during the present year. We can say in advance that the churning of *new* milk,—that is, milk freshly drawn from the cow, is neither profitable nor expedient. Milk requires, when intended for churning entire, to be set in pans after straining the same as if the cream were to be taken off, where properly raised and churned separately. The milk must be cooled by the passing off of the animal heat before the cream will separate from the other constituents of the milk at all, and this is usually a process of an hour or two, according to the temperature of the room where it stands. The churning of milk is no way different in its process from that of cream, only that the cream is not taken off, but after being fully raised, it is poured, with the milk, from the pans into the churn, and worked off together. Both methods are used by different dairymen, but in the results of the trials which have been made and reported, we have not ascertained that milk-churned butter is superior to that where the cream alone is used.

The "statements" which our correspondent asks for can only be given after elaborate trials and investigation, and no inconsiderable expense of time and labor. Several reliable trials have been made in years past under the supervision of the New-York State Agricultural Society, and published in their annual volumes of Transactions. They are of great length and minuteness of detail, and no synopsis could be made from them, short of the full copy, which would give a sufficient understanding of the subject. We need a *good* Dairy Manual in this country, and if some really *competent* man—not one of the youthful book makers just now so officious—would set about it and get up one complete and well understood in all its parts, from the selection of the cow and her keeping to the finishing off of the butter and cheese, it would be of exceeding value to the dairy interests of the country. Until some complete work on this topic is prepared, however, we can offer room for its discussion in these pages.

What Feeding Will Do For Pigs.

We have just killed one pig, fourteen months old, which weighed 438 pounds. A neighbor had two pigs of the same litter, weights 436 and 439 pounds. It will be seen that the average growth was a trifle over a pound a day for the whole life of these pigs. Another neighbor had a pig *of the same litter*, killed at the same time, weight 248 pounds—a difference of nearly 200 pounds.

There is an old adage among pork makers, that "the breed of swine is all in the trough," and these experiments would go to establish the truth of the proverb. Though we have full faith that some breeds are much better than others, yet very much depends upon feeding. In the cases here recorded, the whole difference lay in the trough. The heavy pigs were well fed, while the other was stinted. Pork, in the one case costs about six cents a pound, in the other not less than ten.

To make pork economically, the swine must have a dry, warm apartment to sleep in, and, at this season of the year, the bottom should be of wood, or some good non-conductor. They should be fed at regular intervals. The pig knows the dinner hour as well as his master, and his stomach becomes uneasy, if its cravings are not met at the appointed time. The secret of thrift depends upon keeping him in the most comfortable position possible. If a pig squeals, his flesh is wasting, and the owner should take the alarm at once. But pigs should have enough to eat at each meal, and a change of food, occasionally. They will grow more rapidly upon a mixed diet. For the last few weeks these heavy pigs were fed with two quarts of corn meal apiece, at each feeding. This made the flesh firm, and heavy, and the lard very abundant.

Full feeding is as great an advantage to the manure heap, as it is to the pork barrel. With suitable conveniences a farmer may make eight cords of manure worth sixteen dollars, for each pig that he keeps a year. This will pay for nearly one-half the food a pig consumes, and very much reduce the cost of making pork. The rule then for making pork economically is, keep dry and warm, feed regularly and abundantly, with a variety of food—and save the manure.

What utility is there in killing hogs, if they are *cured* directly afterwards?

Look after the Coarse Fodder.

Nothing is more common in the fields and barn yards of our farmers, than to see quantities of straw, corn-stalks, and coarse litter lying kicking about the cattle's feet, and in piles along the fences, where a little of it is nosed over by the stock, and the rest trodden under foot and wasted.

This is all wrong, and as unnecessary as wrong. Every particle of coarse fodder, even to buckwheat, pea and bean straw, should be carefully foddered out, for in certain portions of the winter, if the stuff be well saved and clean, the cattle, sheep, and horses will consume it all. If the racks under the sheds are not sufficient to hold it, we build cobble pens of rails, poles, or coarse limbs, in the yards, or adjoining fields, and carry out, or haul with a wagon, cart, or sled, as the case may be, the litter, and pitch it into them. To these, in good weather—not in rain or snow storms—we drive the stock, and never had any difficulty in their eating all, or the most of it, even when they fed on good hay over night in their stables and sheds.

Sometimes, when the straw is not bright, by sprinkling on a little brine, the stock will eat it clean, when otherwise they would hardly touch it. It is of no use to say, that such fodder does the stock no good. We know better. Anything that the cattle eat with a relish *does* do them good. Cold bright weather is the time to feed out all coarse fodder, and it is wrong to waste a single handful that any creature you have will consume.

Old Shoes—Refuse Leather.

To the Editor of the American Agriculturist.

....We have got the bones dissolving in oil of vitriol and water, but, what shall we do with the old shoes, of which a great quantity may be picked up where there is no river near by to throw them in. Shall we put them in with the bones, or can you tell us of a better use to put them to?

MIDDLESEX Co., Ct. A.B. WORTHINGTON.

REPLY FROM PROF. JOHNSON.

What the farmer can do on a small scale with old shoes, and leather refuse in general, I do not know. I have tried to dissolve leather in oil of vitriol but although the action is considerable I have not succeeded in destroying the texture so that a finely divided mass resulted. I should advise your correspondent to try composting the old shoes with slaked lime. I am not, however, sanguine that a good result would be obtained in that way. Perhaps a compost of fresh horse-dung containing a good deal of litter, well moistened, and kept covered with muck or earth would reduce them to a convenient shape, in the course of several months of Summer weather.

Old leather is well worth saving. I have analyzed some samples, and have found them to contain nitrogen equivalent to 6 *per cent* of ammonia. It would be easy and doubtless profitable to economize this ammonia by some suitable manufacturing process. S. W. JOHNSON.

YALE ANALYTICAL LABORATORY.
NEW-HAVEN, Ct., Dec. 1857.

WOULDN'T STEAL THE TRAP.—"Billy, how did you lose your finger?" "Easily enough," said Billy. "I suppose you did, but how?" "I guess you'd a lost your'n if it had been where mine was." "That don't answer my question." "Well, if you must know," said Billy, "I had to cut it off or else *steal a trap!*"

If all had windows in their hearts, many would take good care to keep the blinds closed.

Use of Gas Lime.

In all our larger towns where gas is used for lights, there is a considerable quantity of waste lime thrown out from the gas houses, lime being used for passing the gas through to purify it. We have various reports from farmers who have tried this, some in favor, some that it has no effect, while others have condemned it as rank poison to crops. Several inquiries have recently been addressed to us, one of which from F. S. Hawley, of Binghampton, N. Y., we forwarded to Prof. S. W. Johnson, of the Yale Analytical and Agricultural School requesting an opinion. His reply will throw some light upon the subject.

To the Editor of the American Agriculturist:

The various contradictory opinions held among practical farmers, with reference to the value of gas-lime as a manure, are justified by the extreme variableness of its composition. When perfectly fresh from the gas-purifiers, it is in general a rather dangerous application to any growing crops, or in contact with seed. Mr. Solomon Mead, of New-Haven, Ct., informs me that he once applied it in the hill to potatoes, and they never came up. A gentleman in Wallingford, Ct., applied it to grass land and to the roots of peach trees. The trees were destroyed, and the grass severely scorched, so that it did not fairly recover until the ensuing year.

It may be used in the fresh state upon naked fallows, especially when it is desirable to free the soil from slugs, injurious worms, or couch grass. What its action is upon vermin may be inferred from the fact, that when fresh, it contains a substance (sulphid of calcium) which is the actual ingredient in the depilatiors and cosmetics, which are articles employed for removing hair. There is an account of its being thrown into a hog-pen with the intent that the swine should incorporate it with the compost heap. This was effectually accomplished, but at the expense of the bristles and hair of the hogs, which were, in a great measure, removed by the operation.

It is thought, too, that the odor of the coal-tar which is mixed with the gas-lime in greater or less quantity, serves to dislodge insects and vermin, and it is sometimes sowed in small quantity over young turnip-plants to prevent the attacks of the turnip-fly. In Scotland, it is largely applied to moss-land which it is intended to reclaim.

The quantity of easily soluble matters, (sulphid of calcium, sulphite and hyposulphite of lime,) is so variable, ranging according to analytical data, from 2½ to 15 parts in 100, that we may readily comprehend how some gas-limes may be quite harmless if applied in moderate doses even to growing crops, while others, rich in these soluble and deleterious matters destroy all vegetation.

It has been supposed that fresh gas-lime is valuable on account of the *ammonia* it contains. When the gas-lime is emptied from the purifiers in which it has been exposed to the gas, it has a quite pungent odor of ammonia, but the quantity, though enough to affect the nostrils, is in reality quite too small to have any great manuring value, and quite disappears after a few days exposure to the air. Mr. Twining, of this Laboratory, found in a specimen of perfectly fresh gas-lime from the New-Haven gas-works, but 8-10ths of one *per cent* of ammonia. In a gas-lime from the gas-works at Waterbury, Ct., which had been esposed to the air for one week, he found but about 4-100th of one *per cent.*

Fresh gas-lime may be advantageously used in composting swamp muck, &c.

By full exposure to the atmosphere, as when scattered over fallow-ground, after a time it becomes innocuous. The soluble caustic ingredients are converted into no less valuable a substance than gysum (plaster), and then, after its odor and bitter burning taste have disappeared, it acts precisely like a mixture of lime and gypsum. How rapidly these changes take place, I have no means of knowing without making actual trial, but should presume that if a dressing of gas-lime be incorporated thoroughly and uniformly with the soil *one week* before sowing or planting, no harm could result to the crop.

In conclusion, your correspondent is recommended to use it, if he can get it more cheaply than other lime, at the rate of 50 bushels per acre on heavy soils—or 10 to 20 bushels on light soils—making one application in three or four years. If fresh it should be put on the bare soil and not on a crop. In case of corn or potatoes, it may be scattered between the rows and worked in at hoeing time. If the gas-lime is white and tasteless after exposure to air for a time it, may be sown like gypsum.

It should be remembered that a wet soil will not be much benefitted by lime, nor by any manure, unless in a dry season; and that a light dry soil is soon spoiled by lime unless a good supply of organic matter be maintained in it, by means of stable manure, muck composts, or green-manuring. Lime and plaster, too, are at the best, even when they exhibit their most extraordinary effects, but partial fertilizing agents.

S. W. Johnson.

The Ship and the Guinea Hens.

We heard a story many years ago of the late Mr. Bartlett, of Newburyport, Massachusetts, an eminent merchant, and founder of the Andover Theological School, which is characteristic enough to be true. We give it as we had it from one of his neigbors, and being somewhat in the agricultural line, is not out of place here.

Mr. Bartlett was largely engaged in the India trade, but to amuse his leisure hours, bought a farm, a few miles out of town, to which he frequently rode for recreation, and in its various occupations he was much interested. Seeing a pair of Guinea Fowls brought to market one day, and being the first that he had met, and highly pleasing his fancy, he bought them and took them out to his farm. As it was in the spring of the year, before many weeks had passed, the hen began to lay. Instructing his farmer to look closely after the eggs, in a few days he had collected enough for a sitting, and placed them carefully under a common hen. The peculiar appearance and strange manner of the new birds had greatly interested Mr. B., and he was impatient to see their little chickens, and every time he went to the farm inquired if they were about to hatch, and charged his man to let him know as soon as any appearance of the young chicks was indicated. Faithful to his trust, one sunny morning the man rode into town, found his employer at his counting room, and told him that some of the eggs had "pipped," and the chickens would probably be out in the course of the day. "Sam," said Mr. B., calling to his porter, "go to the house and harness the horse before the chaise, and bring him here instantly; I must go to the farm." Away went Sam, as directed, and in a short time he drove the horse to the door, where stood Mr. B., impatient for his coming. Just as he was getting in, one of his clerks stepped up and informed him a favorite Ship of his had just arrived from India with a valuable cargo. She was down the bay, and the captain had sent up to know what disposition should be made of her. "Tell the captain to wait," said Mr. Bartlett, "I am going to the farm to see about my Guinea Hens, and when I get back 'twill be time enough to look after the Ship!"

Now here was a ship and cargo worth, perhaps, a hundred thousand dollars; but that was of no consequence for the time, while a clutch of young Guinea Hens, not worth a single dollar, excited his curiosity so much more, that let the consequences of waiting be what they would for the ship, cargo, and crew, the Guinea chickens must be looked after any way. Ships and cargoes were every day matters with the great merchant, but Guinea Hens were a rarity. Who says that a rich man may not take pleasure in his farm if he wishes to!

The Lawyer and His Fruit Trees.

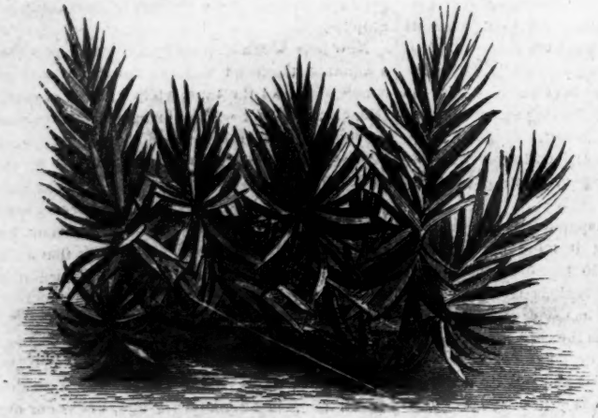
The story above puts us in mind of an incident which happened some years ago, under our own observation.

In adjusting and settling up some of the great transactions which had taken place in the extended business of the years of 1836, '7, '8, in this city, a few years afterwards, the parties, debtor and creditor, had met, and after long and wrangling negotiations, for a settlement of the matter between them, and agreed on the terms. Important legal papers had to made out, and the indebted party, who had brought with him his lawyer, from home, some hundreds of miles off, to see that all was right, was in a hurry to have the papers executed and return. The creditor had his lawyer too; and the latter supposing the negotiation to be a protracted one, was quietly looking over his own affairs, and busied about those days in laying out and planting a young orchard at his place, which he had but lately purchased, a few miles out of the city, on Long Island. Just as he was leaving his office for home, in the afternoon, one day, his client called in and informed him that himself and his debtor had agreed on a settlement of their affairs, and wished him to attend next day and draw up the papers. "I can do no such thing," replied the man of the law. "My men have been busy for a week past preparing my grounds for planting; my trees are all unpacked, and happen what will, I must stay at home and see them planted."

"Yes," returned the client, "but what are a few fruit trees to the settlement of a controversy of such magnitude! You see that it involves an amount of near three hundred thousand dollars! Mr. —— and his lawyer are impatient to be off and the thing must be done immediately."

"No matter. Three hundred thousand or three millions, its all the same to me. My trees *shall* be planted to-morrow. The buds are bursting already, and another day will ruin them if not in the ground. Let ——'s lawyer draw the papers. He has nothing else to do. He is too honorable a man to cheat, and even if he were disposed to, I shall be better able to detect him after getting my trees off my mind, than to wait in my office to-morrow and draw up papers, when I can't get my thoughts away from my trees."

The creditor reluctantly assented, but really wondered what a lawyer of *his* reputation could be about, in fooling away his time in *such* nonsense as that. Next day the parties met to do up the papers; the creditor's attorney took the matter in hand, did the work, and the day after our eminent city man of the law appeared, blithe as a lark, his trees all planted, looked over the documents, pronounced them "all right," and the affair was ended. That lawyer, we have the measure to know, has since become as good a *farmer*, in the employment of his leisure hours on a little farm in the country, as he was considered in his profession.



No. 1—Spanish Bayonet Tree

Southern Vegetation.

At this season of the year, when frosts and snows rule the hour through all Northern latitudes, we have thought it might interest our readers to catch a few glimpses of warmer climes. We therefore introduce original engravings from sketches we made during a winter excursion through the Southern States, in which we studied somewhat thoroughly the peculiarities of vegetation in those parts.

In Savannah, Georgia, we noticed roses, geraniums, verbenas and various annuals in full bloom throughout November and a part of December. Several deciduous trees were still in leaf, and the abundance of broad-leaved evergreens, too tender for the North, as well as the pines and cedars, gave a summery look even to the winter scenery. Passing on to Florida, we found the weather still milder, the birds more numerous and musical, and the vegetation more verdant. Sailing up the St. John's River, we observed wild ducks, cranes, hawks, and pelicans. The shores of this noble river abound in cypresses, the long-leaved pine, the magnolia, (*grandiflora*), the live and water-oak, and other trees. In many places the banks were overhung with cane-brakes, bamboo and wild vines, and here and there were groups of wild orange-trees, loaded with golden fruit. Alligators lay basking on the marshy shore, but crawled off among the reeds, or plunged into the water as we drew near.

Near Jacksonville, Fla., we detected the first signs of our approach to tropical or semi-tropical regions, in the shape of a Dwarf Palmetto. This tree, as we afterwards learned, grows a little further North, but it first met our eye here.

No. 2—Dwarf Palmetto.

It is a large, straggling bush, from four to eight feet high. The trunk is a brown, tough, fibrous substance; the leaf-stalks green, about eighteen inches long; the leaf a pale green, a foot or more in diameter, and in shape as represented above.

A few miles inland from Jacksonville, we met with the Spanish Bayonet Tree, fig. 1 above. It is a huge shrub, rather than a tree, seldom growing, we believe, more than eight or ten feet high. It is called "bayonet-tree," because of the stiff, spear-like branches which shoot out from the trunk on every side. These leaves are an inch and a half wide, eighteen inches to two feet long, about an eighth of an inch thick, and tapering to a sharp point. Being tough and unyielding in their texture, they are often used for hedges around gardens and pleasure grounds. Our sketch was taken from a section of a hedge surrounding an orange-grove near St. Augustine.

A more striking object than either of the above, was the Cabbage-Palmetto, which flourishes in every part of the peninsula, though more abundantly near the sea-coast. It grows from thirty

No. 3—Cabbage Palmetto.

to fifty feet high. The trunk is generally smooth, greyish brown, the wood porous and corky, with, often, the singular variation in the shape of the trunk seen in our sketch. [When too late to rectify the defect in this number—the next page being stereotyped—we discovered that in fig. 3 the engraver has failed to give a very correct representation of the foliage and of a little of the upper part of the trunk. A new engraving may perhaps be introduced in our next issue.]

Notwithstanding the porosity of the timber, it is yet preferred throughout the South, above all other trees, for the construction of wharves, on account of its durability and its exemption from the attacks of sea-worms. It is also peculiarly suited for building forts, "as it closes, without splitting, on the passage of a ball." The summit of the trunk is crowned with a large tuft of palm-shaped leaves, often two feet in diameter, and supported on long foot-stalks. The young leaves resemble a partly folded fan, and are of a bright glossy green. The tree is styled the "cabbage-

No. 4—Date Tree.

palmetto," or palm, because of a bunch of tender, edible leaves in the center of the foliage, somewhat resembling that vegetable. It is usually eight or ten inches in circumference, and may be eaten raw, as a salad, or if preferred, boiled or fried. In taste, it resembles an artichoke, rather than a cabbage, and is neither highly nutritious nor agreeable.

In the public park at St. Augustine we first met with the Date Tree, of which fig. 5 is a sketch.

It is more graceful than the Palmetto. The trunk presents a singular protuberance as it rises from the ground, but afterward is straight, and tapers gradually to the top. The stem is covered with rough scales, which are the remainders of leaf stalks, broken off or fallen from year to year as the tree increases in hight. When grown in ornamental grounds, these decaying leaf stalks are neatly sawed off close to the trunk, leaving the appearance seen in the sketch. The branches of the tree resemble long plumes, extending from the center in graceful sweep on every side, and ten or fifteen feet in length.

Not far from the Date Tree, in a private garden, we found a specimen of the Sago Tree, or Sago Palm, as it is sometimes called. Our sketch represents a young tree only about four feet high. with years it becomes, we suppose, much larger though it is described in the books as "a low spe-

No. 5—Sago Plant.

cies of palm." The branches are like those of the date tree, only smaller and darker green. Its fruit is as large as a pullet's egg, and is palatable. The trunk contains a farinaceous pitch, which makes a wholesome and delicious article of food In preparing it for use, the pith is taken out, broken up in a mortar, put into a cloth or strainer

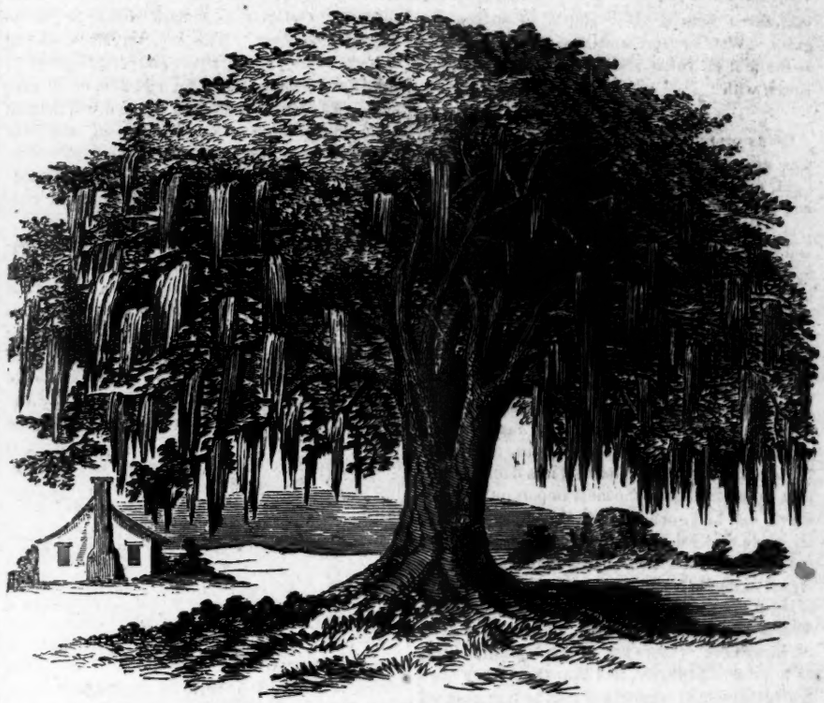
"it is then held over a trough, and water being poured in the pith is washed through the cloth into the trough below: the water being then drawn off, the sago is taken out and dried for use or transportation....It is granulated in a manner somewhat similar to that adopted in the preparation of Tapioca, and in this state enters into commerce."

Not the least remarkable among southern trees is the LIVE OAK. It is found as far north as the Carolinas, but we did not see any large specimens above the latitude of Savannah; the very largest were on the St. Johns, in Florida. Its value for ship timber is widely known. It is also used for the naves and felloes of large wheels, for which it is better suited than white oak. Every Winter the hammocks of Florida resound with northern axes, felling these stately trees for exportation to the various cities of the sea board. It is to be regretted that the Government does not take more stringent measures to prevent the exhaustion of the live oak groves on the public lands. The sea islands along the coasts of Georgia and Florida have been mostly stripped of their oaks to make room for planting cotton. This tree is seldom found more than twenty miles from the shore, and that narrow strip of land has already been much thinned of its best trees.

Our sketch, taken near Picolata, in Florida, may give some idea of the characteristics of this tree. We can describe it, for northern apprehension, no better than by saying that it resembles the largest white oaks in rugged strength and massiveness, combined with the loftiness and graceful sweep of the old New England elms. It is also an evergreen. The branches of these trees are often draped in festoons of grey moss, peculiar to that latitude, often ten to fifteen feet long, which renders the shade beneath them as dark as evening twilight. This moss is an air plant, and does not seem to injure the trees on which it grows. In severe Winters the "poor whites" rake it down from the branches, to feed their starving cows. It is also gathered in large quantities and "cured" for filling beds. It makes quite an article of commerce.

No. 7—YELLOW JASMINE.

Not the least pleasant among our mementos of Southern vegetation, is a twig of the YELLOW JASMINE, which now lies in our herbarium, and has not yet lost all its fragrance. This vine blossoms in February and is one of the first tokens of returning Spring. It clambers over fences, up the trunks of trees fifteen or twenty feet high, and adorns the portico of almost every Southern habitation. The flowers are bright yellow, and about half the size of the common morning glory. The fragrance is delicious, almost beyond comparison. It is occasionally met with at the North in Green-house culture, and catalogued under



No. 6—LIVE OAK.

Jasminum revolutum. It is not sufficiently hardy in out-door culture, to withstand our cold winters without protection, but by laying it down, and covering slightly with earth upon the approach of severe weather, it may be cultivated upon the sunny sides of buildings even in this latitude.

Our last sketch represents the branch of another scarlet flowering vine, whose name we did not learn, which appears soon after the Jasmine, and with similar habits, though destitute of fragrance.

No. 8.

We regret not having made a further acquaintance with this plant, its habits, hardiness, and the probability of its being adapted to more northern latitudes. Perhaps some of our Southern readers will supply the deficiency.

Our port-folio of sketches of Southern vegetation is not exhausted, and may be drawn upon again. We would respectfully solicit of our readers who are scattered over nearly every habitable portion of the globe, sketches and descriptions of plants hitherto undescribed in popular works. Nothing can be more interesting to all classes than an acquaintance thus gained of the plants and flowers which adorn and beautify other lands, or furnish by their fruits the sustenance of the inhabitants. In these pages, however, we can give but little space to topics not directly or indirectly connected with agriculture or horticulture, and therefore interesting to cultivators of the soil.

The Orchard.

In this and several consecutive numbers of the *Agriculturist* for the present year we propose to discuss, in its various descriptions of fruit and their cultivation, this delightful, and interesting as well as profitable branch of husbandry—not only in its application to farm culture, but in the garden of the amateur, and the villager, whether he cultivate one tree, fifty trees, or a thousand. The orchard is a subject which has engrossed much of the best time in our life; we have given it long and varied study: fruits have been with us an object of love—even a hobby; trees we have planted by thousands, not in a professional way, by which we have gained a livelihood, but for our own good use and behoof, from which we in after days expected valuable returns if not in actual profits, yet in the pleasure their bearing would give us, the enjoyment of their delicious fruits, and the grateful reflection that we had contributed our mite to leave by our own labors, as every considerate man should, the world a little better than we found it. Therefore we feel that we can talk about orchards and their fruits candidly, and disinterestedly, if not learnedly, and instructively. We have neither trees to sell, nor fruits to vend. We have no crotchets with which to indoctrinate others, no prejudices to throw off, no partialities to encour age. We have read, if they could be measured by the cube rule, square yards of pomological books and literature by various authors, a great deal of it containing sense, some of it nonsense, and yet none of it supplying all the knowledge which an accomplished fruit-grower should possess in every department of his occupation. Nor do we propose to supply all that knowledge in its varied items which is lacking in the books, but in our own familiar way give such practical views as from our own experience and observation, we believe to be to the purpose, and which, added to the book, as well as to the practical knowledge of our readers

may assist them in their efforts to further progress. With such preliminaries then, we proceed, as the first in value and importance of Orchard fruits, with

THE APPLE.

Of its origin and history, no matter. The fruit was growing here before we ourselves saw the Light, and we only have to look at it all about us, and as we would have it under our own cultivation. It flourishes and produces in various quality and perfection, with occasional exceptions, caused by soil, exposure, or local influences, from Quebec, in the severe Canadian latitude of 47° north, on the St Lawrence, down to that of mild and sunny 30° on the Gulf of Mexico; and from the Atlantic Ocean on the east, to the Pacific on the west. Where it grows in abundance, it is a fruit of housekeeping necessity with those who have long been accustomed to its use, and of luxury everywhere else. Everybody loves apples, and of the fruits of the temperate climates, it is decidedly the best for all uses, and the most important. Wherever it can be grown, no *farm* is complete without its apple orchard, and no garden is perfect without its apple trees, more or less. Its varieties are legion in number, and good varieties too. Many of them are particularly suited to the immediate ocality where they originated, and refuse to flourish elsewhere; others are of such plastic nature as to grow, and thrive, and bear their fruits nearly irrespective of where they may be transplanted, and produce good fruit everywhere, soil and climate favoring them.

So, then, presuming that the apple grows and nourishes in pretty much every locality wherein we have a reader, we shall proceed to discuss the apple orchard as if it were within the immediate range and purpose of the husbandry of every single subscriber to our pages, and tell them what little we know, and think, and believe about it. Presuming that everybody who contemplates planting an orchard has satisfied himself that his farm or or garden is fitted to grow apple trees, the locality need not now be questioned, and the first matter to be disposed if is the

SOIL.

This may vary in character, and composition from a light sandy, to a deep and strong clayey loam; or to perhaps better explain it, from a nearly *leachy* sand, to an almost unctious, or sticky clay. We say "nearly," and "almost," because we should despair of growing a fine orchard on the extremes of either one or the other of these, yet if properly treated, the apple is so universal in its growth that it will adapt itself to almost any description of soil possessing the elements of a crop of the cereal grains, grasses, or garden vegetables; so, it may be laid down as a rule that any soil capable of growing ordinary farm crops, *with a dry bottom*, will grow a fair orchard. Stony, and gravelly soils, if of ordinary fertility, are well suited to the apple; but they should be *warm* soils—that is not springy, cold, nor wet—such being fatal to both the successful growth of the tree, and the quality of the fruit. Could we choose an orchard site exactly to our own taste, it should be a free, loamy soil, rather more inclining to clay than sand, with a slight mixture of gravel in it, resting on a rather compact subsoil in which a limestone clay predominated, gently exposed to the South, and whether that exposure inclined easterly or westerly of South, would not matter, provided it were sheltered from the strong prevailing winds of the locality. The soil, however, should be a dry one, naturally. We would not trust so important an item as an orchard of any kind to the contingencies of artificial drainage by tiles or other process. They may get stopped up, or fail in their duties by casualty, to which the orchard should be in no degree dependent. The soil, therefore, should of itself be dry, warm, sweet and genial—as much so in natural capacity, as for a garden, or a corn field. An orchard is planted for, and will flourish a life time of three generations of men, and be in its prime for two of them; therefore it should be no subject of a contingency so important as a *natural* defect in the soil on which it stands is concerned.

Thus, the selection of soil for the orchard being so wide in variety, a radical defect in its construction should not be tolerated. In naming our choice of a soil and exposures, we have only indicated a preference, in case we could take it out of all which might be offered, being well aware that there are various other compositions of earth that are nearly, if not quite, as good as those we have indicated. It should also be in a good condition of fertility, not for a single crop merely, but rich in the elements of various and continuous crops. Trees are gross feeders through their roots. They spread wide, and penetrate deep. They suck moisture from the earth far below what annual farm crops can do, and they absorb the fertilizing matter from a wide breadth of soil around their trunks. Therefore they require a perpetual supply of food on which to subsist, partially inherent in the soil itself, and partially to be supplied by artificial applications from other sources. New, or hitherto uncropped soils usually possess the elements of orchard growing abundantly in themselves, but in old soils these must be supplied from abroad, and among the best applications are ground bones, leached ashes, lime, and marl, with common stable manures, spread broadcast on the land as for ordinary cropping. The land so prepared brings us to the important process of

PLANTING.

This, really the most important work of all that is connected with the orchard, is, in the great majority of cases the most imperfectly done of any. As we do not propose to go into a minute course of instruction in planting, we simply refer our readers to either one or more of the popular treatises on fruit with which the shelves of our booksellers throughout the country abound. Without one of these—and we will simply name Downing, Thomas, or Barry; Kenrick, Fessenden, or Elliott, as they may happen to be at hand, for this immediate purpose—the new beginner will be sorely at his wits to succeed in this part of his important work. In one, or either of them, he will find the rules of planting so thoroughly laid down, that he cannot mistake the proper method. To do our own duty, however, we will say that the hole for receiving the young tree should not be less than three feet in diameter—four or five, or even six, would be better, according as the soil may be loose, or compact, and not less than one-and-a-half to two feet deep. The hole afterwards should be filled up to where the bottom roots are to rest with the top soil, and when planted, they should be covered with the best and finest mould, well shaken in as the process of filling proceeds, and trod by the foot as it is completed. The tree, when planted and settled, should stand not more than an inch lower in the ground than it did in the nursery. It should also stand erect. If naturally leaning, it should be supported by a stake to give it a straight start, which is an important thing in its future progress.

THE PLAN OF THE ORCHARD

is also important. Let the shape of the field be as it may, the body of the plantation should be square. It may take as a base line one of the bounderies, if that line be a straight one, regardless of the points of the compass. If there be unequal spaces on the sides of the field when the compact part is planted, such spaces may be filled with trees, as far as they will admit, on extending lines with the others. The distance between the trees may depend, somewhat, on the size the trees will ultimately attain; but we would have that distance uniform—not less than thirty-three feet, which is two rods, nor more than fifty feet, which is six inches over three rods. Sunlight, and air, and enough of each, are indispensable for the full development of all fruit bearing trees and their crops, while shade, damp, and closeness are the bane to the healthy expansion of the one, and to perfection in quality, size, and flavor of the other. Let, therefore, the trees stand well apart; no ground will be ultimately lost, and the future results all the better.

WHAT VARIETIES OF APPLE SHALL BE PLANTED?

This, next to the fact of having an orchard at all, is the most important question to be determined in the whole matter, and in solving it several incidental ones have to be considered. If fruits are to be grown for family consumption only, and to but limited extent, those which succeed in your immediate locality, and to which you are partial in their several seasons, are of course to be preferred. But if for a general market, the most popular and best kinds which are decidedly successful in your locality, should be selected; and this leads into a discussion somewhat out of the beaten track of the books, and Pomological Conventions. It is a very natural and common way, when one is about to plant an orchard, to take his fruit book, which he has at hand, run over the descriptions of the several varieties they contain—a large majority of which he finds to be of "the best," and most desirable qualities and appearance, and out of so many rare fruits presented, select five or ten times as many varieties as he actually needs, without asking the question whether, although every one of them is what it is described *in its native locality*, and some other places, it is suitable to the soil, climate and locality, he has secured. He is not aware that the kind of apple which is admirably adapted for cultivation at or near the place of its origin, may be nearly worthless at a hundred or five hundred miles distant, in a different altitude or soil, or temperature. Yet such are the facts, well known to observing pomologists, but not represented in the books with the precision they ought to be, if at all. And yet, most of the prominent works on fruits, which we now consult, have been published since the days of our first pomological conventions, where men have assembled from all parts of the country, compared notes, and strived to enlighten each other in these particulars; and out of all the published proceedings of these conventions, containing hundreds of names of varieties grown in different sections of the States and the Canadas, one having no personal experience in growing apples could give but a wild guess as to what kinds he ought to select for his own locality. A variety which would be exceedingly profitable to grow in one State, may be worthless in another, and we have scarcely a single one which is equally well adapted to all localities, climates and soils. For instance, Massachusetts has originated the Baldwin, the Roxbury Russet, and the Westfield Seek-no-further—three of the best apples known, and good wherever they will grow in perfection; but south of Lake Erie only one of them, the Roxbury Russet, is fully reliable and only in places worth cultivation. Rhode Island has produced the celebrated Greening, which bears its name, and nowhere north of that State and Connecticut, and west of them does it

maintain the same peculiar character, and possess the same high flavor of its own native soil, and the adjoining vicinity. Connecticut produces the Golden Sweeting, which, although a most excellent apple as far away as in Western New-York, does not equal in size and perfection of flavor, its original at home. New-York has produced the Newtown and Fall Pippin, on Long Island; the Esopus Spitzenburgh, Swaar, and Philip Rick, in Ulster—apples of the very first quality wherever known in their perfection, but beyond her own boundaries, and even in a large portion of their own State, they decline in character, and are of doubtful orchard excellence, while in many other States they are not worth growing. So every other *old* State in the Union has its own favorite original varieties, and many of the new, where they have had sufficient time to orginate seedlings, or have adopted others from different localities, which were congenial to their new homes, possess varieties greatly superior in their own soils and climates to those of the highest celebrity elsewhere, and of which the orchardists of other States know little or nothing. Canada has her Fameuse, Pomme Gris and Bourassa, the most delicious of apples there, yet good for little when grown two or three degrees further South. Go also into Ohio, Kentucky, Indiana and Illinois. They will show you Northern apples of the highest reputation, when grown at the North, which you will scarcely know as such, so changed in appearance and flavor as they are, and of inferior quality, too, when compared with the Raule's Jannet, the Coopers, Mellow-twigs, Belmonts, and others of different origin, which they there cultivate, and probably even some others which are of little worth where you know them in your own States, yet of the highest quality in their new and more favored localities.

Planting Large Trees.

The practice of planting large trees, whether for shade or fruit, is decidedly objectionable. Young America is in haste to realise immediate results from his labors: he wants umbrageous groves and heavy-laden orchards made to order: he cannot wait for them to come on in the natural way, as his old fogy ancestors did.

We are not insensible to the arguments in favor of removing large trees. Life is so short, and trees are so slow in their growth, that nearly half one's days must be spent before small trees of his own planting can attain large size. Then why not anticipate nature, and set out trees already nearly grown! By removing them in Winter with large balls of frozen earth around their roots, they can often be made to live, and if so, there is a saving of several years. There is force in these considerations; and if we were now about to plant new and wholly unoccupied grounds, we should take great pains to remove a few large shade trees into the premises, in order to give them at once some appearance of age and cultivation. The number should be small, however, and for reasons like the following:

In the first place,—saying nothing about the labor and expense, which are considerable—if quite a large tree is removed successfully, it lacks certain interesting associations which always cluster about one which we have planted in its youth, and watched over from year to year, through all the period of its growth to maturity. When we raise a tree from the seed, or from a sapling, we become attached to it; it is peculiarly our own tree; it is linked with events in our own life, or that of our kindred: it becomes, as it were, a member of our family and wins no small share of our affection. Whereas, a huge old tree, hauled from the woods into our lawn, by oxen, on some bleak Winter's day, and set up there as if it had grown in that place, in the natural way, and under human care, can have no such associations. Give us but few such monsters. Rather let us plant our trees as mankind always have done, taking those of moderate size, removing them carefully, nursing them from year to year, mixing up our own life's experience with their growth, and investing them with those associations which give to human life some of its highest attractions.

But again: large trees are seldom moved with entire success. A few outlive the shock of such violent treatment, but the majority die outright, or survive a few years, only to die a lingering death. In our own neighborhood, we have an instance of ten or twelve maples, which were moved in the Winter, with great care and expense: they expanded their leaves feebly the first Spring, but before Summer was over nearly half the branches were dead; the second season the foliage was still lighter, and before Autumn half the trees were dead. A third year will probably witness the decease of the entire grove. On another street, a row of elms thirty or forty feet high, was set out in the same manner. Their branches were cut off more closely than the maples; indeed, they looked quite like sticks of timber set in the ground, with a few prongs on one end. Great pains were also taken to preserve their roots from mutilation. Several of these trees lived, and are now throwing out new branches at the top; but their growth is feeble, and must continue so for several years. The little matted tuft of leaves on their very top gives them quite a ridiculous aspect on the score of taste. A waggish friend of ours, riding with us in that neighborhood last Fall, observed that those trees looked to him like newly-plucked shanghais! A large proportion of the trees first planted have since died, and given place to small ones, which now promise well. Not far from this row of monstrosities are groups and avenues of large, well-developed elms, maples, lindens, and others, which were planted when small, in good soil, and without much mutilation of root or branch. They have grown lustily from the start, and are now in perfect health. Not a scar defaces their ample trunks; their branches spring upward, or spread abroad in graceful sweep, and are clothed in a rich garniture of leaves. They are the pride and joy of the men who planted them, and will live on through long years to come in vigorous health, proclaiming to another generation the public spirit and taste of this.

Our objections to removing large ornamental trees, apply with double force to the removal of such fruit trees. With even the greatest care, a multitude of small roots and fibres will be destroyed; and when these are gone, they are recovered, if at all, only after long waiting and much nursing. A thousand little spongioles, fine hair-like roots, extend on every side, as so many mouths to gather up food for the tree; and when these are torn off what can supply their places! We doubt whether a large fruit tree, so mangled, ever regains its original vigor and health. As well might you half starve and maim a young animal, and not expect him to become stunted and deformed, as to give a tree the same usage and not expect similar results.

Without attempting to lay down any invariable rule, we think the best time for removing apple trees is when they have grown three years from the graft or bud; the pear should not be more than two years from the bud; the cherry, ditto; the peach and apricot, one year; the plum, two to four; grapes and other small fruits, one or two years from the cutting; and in every case, preserve all the roots possible, and that without mutilation.

Winter Protection of Fruit Trees.

Elijah Weeks writes: "....I live in the northeast part of New-Hampshire, near Fryeburg, Me., the coldest place in Uncle Sam's dominions, except Franconia. Yet I have such a taste for cultivating and eating good fruit, that I have bought 100 pear trees, half of them dwarfs. But the tops and blossom buds got badly nipped by frost last Winter. I would inquire what is the very best dressing, and mode of cultivating them, and if any protection can be given against the dreadful COLD....A few dwarf pear trees, set in 1855, I preserved from Winter-kill by spruce trees. The spruce trees had thick, low limbs, and I set them in holes dug on three sides of the pear trees, binding the tops together...."

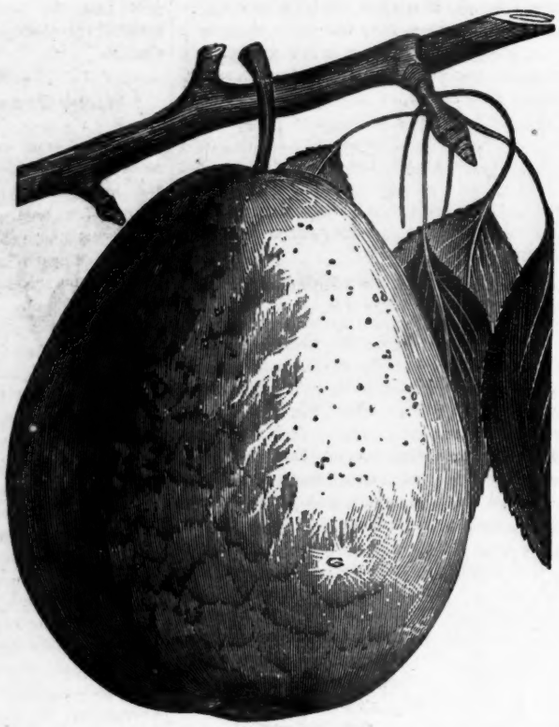
Remarks.—For tender trees, especially the pear and plum, in a cold climate like the above, it is well to set a thick double row or belt of evergreens upon the windward sides. Often a forest can be so cleared up as to leave a belt of trees, open, at most, on the south side. Trees planted in such an enclosure will be much less liable to freeze out than if fully exposed to the fierce blasts of Winter. Such winds are much modified and softened by being *sifted* through a forest or belt of evergreens. Spruce or hemlock boughs bound around the branches of young trees, as above described, are the best means of protecting them for the time being, but as they increase in size it is more difficult to cover them. For dwarf trees, a high, tight fence may be erected on all sides but the south. The inner surface of the fence will afford a good space for training grape vines upon.

Grafting Wild Grape Vines.

L. F. Jones, of Mariposa Co., Cal., inquires "if the wild grape vines on the banks of rocky brooks, may be made valuable by grafting; ground naturally watered, being scarce and consequently precious." Some of the finest wild grapes we have ever seen in this country, we gathered upon the steep declivities of a limestone mountain, where the vines were watered by small running springs issuing from the ledges. These were upon an Indian Reservation in western New-York. Where such vines are inclosed it is well worth while to graft upon them some of the improved varieties Scions can be inserted in the branches similarly to the ordinary mode of grafting fruit trees; but this mode is uncertain and should not be attempted except by expert hands and on a limited scale.

The plan usually recommended in books is to insert the scions in the main stalk, just at the surface of the ground, and bank up with earth above the point of contact. A better plan, and one most likely to be successful is to cut the main branch to the ground and insert the scion in the *root* near the stump. To do this, remove the earth from the root, bore in a hole with a smooth cutting bit or gimlet and insert the scion previously whittled to exactly fit the hole. In this as in all other grafting it is important to have the cut edge of the bark on the scion meet the bark of the root. The scions should be cut into short pieces of four to eight inches in length, each piece to contain one or at most two buds. The grafting is to be done early in Spring, before the flow of sap commences, say in March or April, according to latitude and mildness of the location. See notes of experiments on page 186, Vol. XVI.

Flemish Beauty Pear



In further pursuance of our design of illustrating some of the best fruits, whether new or not, we have chosen for this number a member of the pear family. The Flemish Beauty is one of a select circle of Pears recommended by our Pomologists for general cultivation. Like most pears, it loves a rich clayey-loam soil, with an open exposure, and good cultivation. With these advantages it is a large, fine, delicious fruit. The tree is thrifty, and the wood strong and upright. It ripens late in September, and early in October, and like all pears, requires picking and laying by before fully ripe. When so treated, it is a rich, delicious, and melting fruit.

The skin is slightly rough, pale yellow in color, turning, as it ripens, to a ruddy hue. The tree is a great bearer, and when standing in the grounds, loaded with its hanging fruit in early Autumn, few pears will compare in the luxury of its appearance with the Flemish Beauty.

Trouble among Apple Trees in Delaware.

To the Editor of the American Agriculturist:

I am in trouble with my apple orchard, and come to you for advice. Twelve years ago last Spring I planted one acre with an assortment of the best kinds that Western New-York could produce. Soil a deep sandy loam—situation high, with a north-east exposure. They have grown finely, and the two past seasons borne some fruit. I have not yet had a full crop on any of the trees, except the R. I. Greenings and the Fall Orange. But the worst of it is that they *will rot on the trees*,—the above kinds, the Strawberry and the Spitzenburgh in particular. I cultivated the trees for several years while young, since then the sod has not been disturbed. Manured on top with stable manure and superphospate, in Spring of '56 and '57.

What is to be done to prevent the rot and make the trees more productive? Had I better turn the sod under this Fall? Would an application of lime or ashes tend to check the rot?

I scraped the trunks last Spring, and soaped them after the most approved plan. There is no surplus water in the subsoil. The field adjoining has produced 60 to 90 bushels of corn per acre, and I think such a soil should produce more and better apples. I would blame the change to a longer and warmer Fall; but the Russet, which has long been acclimated here, is equally affected.

I should have said that I am careful to gather and destroy wormy apples; hand-picked what were not rotten the middle of October. My Greenings and Spitzenburghs are equal in size and quality, to any I have seen from your State, but they are going, going, gone—the way of all the earth, including the potatoes. Stop them, my dear Sir, and look out for a Club (of Subscribers?) the 1st of January. Yours, for big apples,

JAS. C. JACKSON.

New Castle Co., Del., Nov. 11, 1857.

REMARKS.—We can hardly prescribe for the difficulty which our correspondent represents without a personal observation of the premises, and an accurate knowledge of some circumstances beyond those he notes; and perhaps not then could we give him any light on the subject. It is quite evident that the Strawberry and Spitzenburgh varieties are not congenial to his soil. Western New-York is no guide in fruits to Delaware, where other varieties, strangers to that distant region, may flourish in great perfection. As we are publishing a course of papers germane to this very subject, our correspondent may see in what is there written his own difficulty. The treatment he gives his trees is certainly not in fault; and if, while some other good varieties of apples flourish and succeed with him, the refractory kinds do not mend their manners, were the case our own, we should, without hesitation, at once saw off their tops and insert one that will. We would make a short case of such a matter.

Important and Valuable Articles on Fruits.

On page 17, will be found the first of a series of articles on Fruit Culture. These articles will probably be continued through the volume and embrace the different kinds of standard fruits in general culture. While in the various articles appearing in this journal it is the *Agriculturist* that speaks, and not this or that particular individual, we take the liberty to say that the series on fruits, referred to, is written by one of the most experienced fruit growers in the country. The articles will, however, speak for themselves, and we doubt not attract general attention; and looking at the matter in a pecuniary light—as the publishing and responsible editor must do professionally—we have no doubt but this single series of articles will alone richly repay *every* reader of the *Agriculturist* all that he has or may invest on subscription account.

Fruit growing is becoming more and more important to the farmers of the country. Not one fourth enough is now produced to meet the present actual wants of our markets while the numerous rail-roads are opening new avenues, and producing a greatly increased demand for fruits of all kinds. And to us it seems that there is no more agreeable or profitable pursuit opened to farmers and others.

Flower Seeds for Distribution.

Elsewhere we present a list of Seeds to be distributed to our subscribers. Among these are a variety of Flower Seeds, most of which we are getting from Europe, where more attention is given to cultivating them in purity and of the best varieties. These seeds are quite expensive, costing from $1 to over $30 per pound, and of course but small parcels can be given to each applicant, though enough of *three* kinds will be sent to each one to plant a small plot, and furnish a fine supply of seed for the future. Directions for culture will be given from time to time, at or before the appropriate season for planting. We now append brief notes descriptive of their characteristics, with engravings of a few of them. Several of those not illustrated are quite as beautiful, but we could not, at this time, procure good specimens for taking drawings from, and therefore have only engraved such as we chanced to have already penciled. Others will be shown hereafter.

LARGE FLOWERING MIGNONETTE, (*Reseda odorata.*)—A very fragrant annual, with flowers more prized for their delightful perfume than for size or beauty. A vigorous grower, blooming from early Summer until Autumn frosts. Sown late in the season they form fine pot plants for Winter blooming in the parlor.

VIRGINIAN STOCK—WHITE AND RED, (*Malcomia maritima.*)—A fine, rather low, bushy growing annual. It is the smaller plant on the left of fig. 1.

VIRGINIAN STOCK.

TEN WEEK STOCK, (*Matthiola grandiflora.*)—Called also "Stock-gilly." This blossoms in spikes, as seen in the large plant, in fig. 1. Each flower is double, and somewhat ragged in appearance. They require a long season to arrive at perfection. Much used as a pot-plant in winter.

NASTURTIUM, (*Tropæolum majus.*)—An easily cultivated annual; on rich ground often runs several feet as a vine, bearing a bright yellow flower, varying in color to orange and crimson. It makes a showy plant for walls and trellises, and the seed capsules, picked in a green state, are highly prized for pickling. It therefore serves the double purpose of ornament and utility.

NEMOPHILA, (*insignis.*)—Called also "Love Grove." A hardy annual, bearing beautiful blue flowers, of dwarfish habit, blooming only six or

eight inches from the ground. The ripened seeds, if left upon the ground, survive the Winter, and spring up and bloom in early Summer. The flowers last a long time if partially shaded.

Cockscomb (*Celosia cristata*).—A very pretty annual of a red or yellow color—the kind most usually cultivated is brilliant red and very showy—some of them large, and beautiful; the whole head is a mass f bloom. The scarlets and crimsons are preferable to yellow colors. Though adapted to pot culture they succeed well when sown in early Spring, on warm rich soil. They grow from one to two feet in hight.

Cockscomb.

Dwarf Rocket Larkspur, (*Delphinium ajacis.*)—The double varieties are very showy annuals, with flowers of white, lilac, pink and dark purple. They make a very fine show; best when sown in Autumn, but do well planted in the Spring.

Double Balsams, (*Impatiens balsamina.*)—"Touch-me-not," or "Ladies' Slippers," as they are sometimes called—are choice annuals, desirable in the smallest collection of flowers. Unfortunately much of the seed sold under the name of *double* only produces *single* flowers. We are promised seed of choice double kinds. They are very showy plants, with several shades of bloom, which, in the double varieties, are mainly confined to a single spike, commencing to open at the bottom, and continuing upward during the entire season.

Chinese Pink, (*Dianthus Chinensis.*)—A handsome blooming biennial, of great beauty, but destitute of that fragrance so conspicuous in some varieties of the same species. The colors of crimson and nearly black, with edgings of white and pink, give the flowers a rich appearance. They are of dwarfish habit, and exceedingly variable in appearance. They bloom the first season, although biennial.

Chinese Pink.

Tassel Flower, (*Cacalia coccinea.*)—A pretty scarlet annual of easy culture, growing about 1½ feet high. The flowers have a *tasseled* appearance, and are conspicuous from July to September. It is sometimes termed "Venus' Paint Brush."

Portulacas, (*Splendens lutea* and *alba*)—Are showy and attractive, opening their petals of crimson, scarlet, yellow and white, with the morning sun. They are dwarf and trailing, seldom reaching more than six inches in hight. They are annuals of the same family as the purslane.

Cypress Vine, (*Ipomea quamoclit.*)—This choicest of annual climbers, is admirably adapted for a conical trellis, or training upon strings arranged as fancy may dictate. The vine itself, with its delicate foliage, is very pretty, to say nothing of its bright scarlet, or white flowers, which, though small, are of long duration. The *Jalap* of the druggist is made, in part, from a tropical variety (jalapa) of this genus.

Asters—Chinese and German (*Aster Chinensis*)—The original Chinese variety has been so improved by the Germans and Italians that their names are now attached to some of the choicest varieties. They are all very pretty annuals, showing a great variety of bloom ranging through several colors singly and combined in the same flower. Some of them are as double as a well formed dahlia. They deserve a place in every collection of flowers; blooming about one foot from the ground. They are easily raised annuals, bearing transplanting without injury.

Golden Bartonia (*Bartonia aurea*). A very pretty yellow annual from California. It grows about a foot in hight, and succeeds best when started in a hot bed or in the house. It is a profuse bloomer.

Zinnia (*elegans*).—An annual, blooming for a long time. There are several shades of color as white, scarlet, crimson and orange. They grow from two to three feet in hight.

Sweet William, (*Dianthus barbatus.*)—A universal favorite, found in almost every garden, but none the less valuable. Its showy bloom of divers colors with beautiful edgings and delightful fragrance, render it desirable and attractive. It is a perennial, blooming the second season from the time of sowing.

Sweet William.

Marvel of Peru, (*Mirabilis jalapa*) or "Four o'clock," is quite ornamental and attractive in appearance, blooming from early August until killed by frost. The flowers are red, white, yellow and striped. A portion of the jalap of the druggist is obtained from the pulverized roots.

Eschscholtzia, (*Californica*).—California Poppy, named Chriseus, by some botanists, is a showy yellow flower of rather rambling habit, growing nearly two feet high. It blooms in succession during the season and has a dazzling appearance in the sun.

Elegant Clarkia, (*Clarkia elegans*)—Is one of several varieties of clarkia, both hardy and pretty. It is often sown in a hot bed for early flowering. It grows from 12 to 18 inches in hight. The colors vary from white to pink, and are very showy.

Fox Glove (*Digitalis purpurea, lanata, &c.*).—A perennial, of great beauty with its spike of thimble or bell shaped flowers, of various shades, from white to red, some of them finely mottled. It grows two to four feet high; is often propagated by dividing the root. It flowers the second season from seed. The medicine *digitalis* is obtained from it.

Fox Glove.

Lavatera (*Lavatera trimestris*).—An annual producing handsome flowers, some of which are red and others white. They grow about two feet high, and bloom from July to September.

Sweet Peas, (*Lathyrus odoratus*)—Nearly resemble the common pea in the form of their bloom, though much larger. The beauty of color, and especially the fragrance of the flowers, render these plants pleasing annual climbers. They are of different colors, varying from white to scarlet, purple and black, besides having the different shades of their colors mingled in the same flower. Worthy of cultivation.

Sweet Pea.

Lupins, (*Lupinus*)—Are an extensive family, many of them very pretty, flowering on spikes from one to three feet in hight. Many of the varieties are blue, although some of them vary through the different shades from white to yellow. We shall distribute several varieties mixed.

Morning Glory, (*Convolvulus major.*)—This is too well known to require a description. They are by all acknowledged very pretty climbers upon walls, fences, trellises, or strings to a central stake, making a cone of dense foliage, covered with large flowers of white, blue, purple and varied color. We have selected a number of varieties, and shall distribute the seed mixed.

Flos Adonis, or Pheasant's Eye, (*Adonis miniata.*)—A hardy annual, growing 1½ to 2 feet in hight. The foliage is quite handsome, and, with its spike of blood red flowers is an attractive plant for border culture.

Candy Tuft, (*Iberis umbellata, amara, &c.*)—A fine plant for massing, of dwarfish habit and several shades of color, from pure white to purple. It seeds itself in Autumn, and blooms the next season, six inches to one foot from the ground, in clusters, as seen in the cut opposite.

Candy Tuft.

Schizanthus (*humilis, pinnatus, &c.*,)—A pretty class of plants blooming from August to October. The colors vary through several shades in which purple and yellow predominate. They grow about two feet high, and are annuals well suited to garden or pot culture.

Drummond's Phlox (*Phlox Drummondii*)—Is an annual variety of the Phlox family, worthy a place in every collection of flowers. It is very hardy and finely adapted for massing. Flowers of white, pink, scarlet, crimson and purple with the intermediate tints. A showy spreading plant of near one foot in hight.

Winter or Ground Cherry.

This fruit has received various appellations such as strawberry tomato, French tomato. Shaker gooseberry, &c. The articles on pages 35 and 114, Vol. XVI., called out numerous com-

munications and applications for seed. We have also raised a crop of two varieties, viz.: the Physalis *alkekingi* and *P. viscosa*. The *alkekingi*, as previously stated, was brought to this country by Gen. Mezaros, of Hungary. They were originally from Italy. This is a strong growing variety; some of the plants under General M.'s cultivation grew six feet high, and were very branching. They require starting in the house, or in a hot bed. Our own plants so started perfected their fruit. The fruit, like all other varieties, grows singly in inflated capsules, is of a light orange color, round, one-half to three-fourths of an inch in diameter, and of an agreeable and somewhat acid flavor. The *viscosa* is evidently a native of this country, but none the less valuable for that.

Their keeping qualities strongly recommend them, as they retain their freshness until mid-Winter when such fruit is an object. Ours are still fresh at this date (December 15th) and show more indications of drying up than decaying. The plants of the native variety are very branching, with an inclination to trail upon the ground unless supported by stakes. The fruit is like the alkekingi in appearance, but sweeter to the taste. The Peruviana is nearly allied to the viscosa, with more of an upright habit, and berries a trifle larger. We have received specimens of a *blue* variety under the name of French Tomato, which were from three-fourths to seven eights of an inch in diameter, very firm, dark blue on the outside, and green inside. They are described as an annual growing two feet in hight. We hear of the same variety growing wild at the West with others of green and grey color.

The capsules or husks of the early ripening berries become nearly transparent in time, through which the yellow balls are seen.

Having thoroughly tested the fruit in pickles, pies and preserves, we are very much pleased with the plant and shall be glad to scatter it as widely as our supply of seed will allow.

We shall plant a large quantity for our own use another season, and only wish we had sufficient seed to supply a liberal package to every applicant. A few plants will furnish a large amount of fruit, and by putting what seed we have in small parcels, we still hope to furnish each subscriber desiring it with a package. We have only the American variety for distribution now, but may get a supply of the European before Spring.

Dahlias Blooming the First Year from Seed.

To the Editor of the American Agriculturist:

I observe an article in respect to the propagation of the Dahlia in your last number, which is so different from my experience that I may be permitted to give it. Last spring I planted the seed of the Dahlia, which quickly germinated, grew vigorously, until they attained the height of from four to five feet, and produced perfect flowers. They were very double, and of every color, except black—that sombre hue which nature has entirely excluded from this, her most beautiful department—and blue, that coveted color which no botanist has yet been able to obtain in the Dahlia. In the spring of 1856 I planted the seed of the Dahlia, with the same result, but under the impression which you have adopted, and which seems to be general among florists, that it requires two years to bring it to perfection. I was fearful it might be an eccentricity, and therefore did not communicate it. The soil of my garden is a rich black loam, *three feet* in depth, which may have contributed to the result, still I am convinced that the Dahlia may be propagated from the seed in a single season, from any moderately rich soil.

A. Sanders

Davenport, Iowa, Dec. 8th, 1857.

ANOTHER SIMILAR EXAMPLE.

Mrs. M. L. J., of Claymont, Del., writes us, that she sowed, last May, Dahlia seed from France, transplanting when one foot high, into a large bed, putting them one yard apart. They produced in the fall "as handsome flowers as could be found anywhere."

Bitter Pumpkins.

In Volume XV, at pages 76, 100 and 132, we published some notes on bitter pumpkins, called out by a crop of them raised by Dr. Whitman, of Fiskville, R. I. The specimen sent us was described as resembling both a squash and pumpkin, but as bitter to the taste as quassia or quinine. We have the following recent letter from Dr. W.

Fiskville, R. I., Nov. 10, 1857.

To the Editor of the American Agriculturist:

About a year ago, I forwarded you through Dr. Balch, of Providence, a specimen of bitter squash or pumpkin, whichever you choose to call it, for examination. I think your opinion as expressed at that time was, that it was a cross with some other plant, a kind of hybrid. I think you were correct in that, for I saved the seed from them and planted again this season, but not one of them came up This season I have another crop from one stalk only, that came up among some Winter squashes. This plant grew rapidly while the others, the Winter squashes, were nearly all destroyed by the bugs. I planted again and covered them with boxes to keep off the bugs. They grew very well until they began to run when all others in the neighborhood of what proved to be the bitter vine, died out and that ruled supreme over that portion of the garden. I picked from this one vine thirty squashes not as large as last year, but as bitter as any quinine.

I should like to know what gives them this intense bitter taste, and what properties this bitter possesses if any. * * *

A. C. Whitman.

Willow Baskets.

There is not a poorer article in use about a farm than the cheap, shammy made, splint baskets, chiefly of black ash, which the makers and venders of them impose upon us. They charge great prices for them, and when we get them we use them but a little while, and throw them aside, worn out or pulled to pieces.

Now, nothing is easier than for any farmer who has a piece of moist land under fence, to grow his own osier willows, and either make his own baskets, or have them made in his own neighborhood. A row of good osier willows, six or eight rods long, will produce enough cuttings every year to keep an ordinary farmer in baskets continually; and one good willow basket is worth half a dozen of the shammy things made of ash splints. The willows require no peeling, except for fancy work; they are very strong, and can be worked into any shape desirable. Where willow baskets have once been tried, you will have no wish to throw them by, and take back the ash ones. If the true osier cannot be obtained, the common swamp willow answers a good purpose, as we have tried. But the osier is now so generally cultivated, particularly in the nurseries, and so easily obtained, that every farmer might have a little patch on his premises; and if he cannot make the cuttings into baskets himself there are usually men enough in the neighborhood who will gladly take and make them up on shares.

Bark Louse on Fruit Trees.

To the Editor of the American Agriculturist:

I have received direct, and through you, a large number of letters, and specimens of Bark Lice on apple limbs, currant bushes, &c., in reply to my article on this topic in the December *Agriculturist*. I am examining them with the aid of the microscope, and will be ready to reply in the February number. A. O. Moore.

Making and Keeping Good Cider.

E. C., of New-York, desires us to tell him and others how to keep cider sweet during the Winter.

There are several items to be taken into account in answering the above question. One is, that the article called "Cider," be really true, veritable juice of the apple, pure and unadulterated, not mixed up with hen droppings in and about the pomace vat, and the press slovened with tobacco saliva while being made; the "Cheese," in pressing, "slushed down" with dirty water, and various other ingredients mixed therein, such as we have seen at sundry cider presses in the course of our agricultural observation. Another is, that it be made of *sound, well-ripened* apples, where the rotten, as well as the green, acrid fruit has been thrown out before going into the mill. A third, that the whole machinery of its manufacture be sweet and clean, and kept so through the whole cider-making process. A fourth, that the pomace lay in the vat after grinding at least twenty-four hours, with two or three thorough shovelings over in the meantime to give it a sufficient opportunity to absorb the oxygen from the atmosphere, wherewith to sweeten and give the juice the deep, full color, which *good* cider always should have. And fifthly, that after pressing it should be well filtered into sweet oaken casks, and thoroughly worked of its impurities before bunged and brought into the cellar for Winter storage.

All this being done, our correspondent would have little need of instruction how to keep the cider sweet during the Winter. It would keep sweet of itself. If, however, when it is perfectly "settled"—which may be readily ascertained by the aid of a gimlet hole near the bung, if the barrel be full, through which the frothy matter will still ooze, if not thoroughly worked—a tendency to change into the vinous state is observed, it should be drawn off into another clean cask, and a gill of powdered charcoal poured into the bung hole, the cask lightly shaken, the bung driven tight, and the vent hole, if one exist, be plugged also. This will keep it sweet for the Winter. If bottling be intended, in the month of March draw, or rack off the cider again, and if it be not perfectly clear, dissolve an ounce of pure Isinglass in a little of the cider, and pour it in, which will make it clear and sparkling. In May it may be drawn off and bottled. Fill the bottles to within two inches of their tops, drive the corks close, seal them and lay them in boxes, when it will be abundantly purer, and infinitely healthier than nine-tenths of the villianous compounds termed and labeled "Champagne," for which you will pay $10 to $25 the dozen at the wine dealers.

There is a great deal of corked and manufactured trash got up at the cider cellars in various parts of the country, in which, as in the champagne aforesaid, there is scarcely enough of the pure original juice of the fruit of which it ought to be made "to make a note of." To all sellers of such compounds, the lovers of *real* cider should turn the cold shoulder by letting it alone.

Downing's New Seedling Gooseberry.

Owing to the fact that the superior English varieties of the gooseberry are so liable to mildew in this country, much attention is being given to the improvement of native sorts. Hitherto, Houghton's Seedling has been the principal improved native variety which has been in demand, on account of its quality and freedom from mildew. The main objection to it is its small size, as compared with the foreign sorts. We are glad to learn that Charles Downing has produced a Seedling from the Houghton of about double its size, of light green color, thin skin, and a delicate sweet vinous flavor, like the finest foreign varieties. This has been proved by a trial of three years, and, though Mr. Downing, with his usual modesty, forbears pushing it into notice, we hope some of our enterprising cultivators will look after it, and see that a supply of plants be speedily propagated, to meet the large demand for a variety of this fruit, which shall be unexceptionable as to ize, flavor, and freedom from mildew.

Native and Foreign Trees.

We are not insensible to the superior beauty and value of some foreign ornamental trees. Our pleasure grounds could ill spare the Norway Spruce, Siberian Arbor Vitæ, Swedish Juniper, Scotch Larch, English Linden, Mountain Ash, &c., &c. But we fear that the richness of our own forests is unappreciated by many planters; to some, perhaps, it is unknown. Let it not be forgotten that we have fifty species of oaks in North America, while all Europe has only thirty. North America has forty species of pines and firs—the United States over twenty—while Europe has only fourteen species. Who, among our readers, has pride of country enough to collect all the native trees which will grow in his latitude? We would travel many miles to inspect such a collection.

Shade Trees in Pastures.

In an Address before the late annual Fair of the Oneida County Agricultural Society, Hon. A. B. Dickinson inveighed severely against the preservation of shade trees in pasture lands. Such trees, he contended, are a great injury to the soil, exhausting it for a large area, of its fertility and moisture. For this reason, if for no other, they should be extirpated. But, furthermore, they hinder the fattening of animals grazing in such fields. In lots fully exposed to the sun's rays, the grass is of a better quality; and then, the cattle having no shady resorts, stand up and eat all the time; whereas, if there were trees here and there, they would lie down under them in the heat of the day, and so eat less, and consequently fatten less.

Mr. D. says he has tried the experiment to his entire satisfaction. Every Spring he buys a thousand head of steers, assigns to each field as many as it ought to sustain well, and never changes their quarters. He has, in particular, two fields of thirty acres each, as near alike in quality of grass, and in all other respects, as possible, with the exception that one has several shade trees in it, and the other has none. These fields he has used to test his theory, and he finds that his cattle fatten sooner in the open field than in the shaded. He has found by actual experiment that the cattle in the open field increase in weight fifteen pounds per head a month over those in the other pasture. He has arrived at the definite conclusion, in his own mind, that other things remaining the same, "a lot of steers will gain as much in an open field in four months as they will in five months in a field where they have access to shade."

Mr. D. is a large and thorough-going farmer, and deserves credit for his energy, and for the zeal with which he prosecutes experiments. But we cannot fully adopt his opinion in the present case; at least we must be allowed to express some objections. Shade trees, he says, exhaust pastures of their fertility. Well, but do they not pay back large installments in their annual deposit of leaves? The grass is of poorer quality around such trees. Granted, but not so poor that cattle do not eat it. And besides, the soil and the quality of the grass beneath such trees, are benefitted by the droppings of the cattle while resting in the shade. But then, in fields with occasional trees cattle will lie down in the middle of Summer days, when they ought to be out in the sun industriously filling themselves with grass, and so taking on fat! We are not overwhelmed with the force of this last consideration. To *compel* a steer to stand up in dog-days, at noon, and eat grass so as to hasten his fattening, when he is already full and wants to rest, is ludicrous, if it be not a barbarous and short-sighted philosophy. But whether this theory be true or not, many of us still advocate the preservation of *a few* shade trees in pastures. Do rational men live for nothing but to fatten cattle in short metre? Have considerations of beauty no weight in their minds? Have they no regard for the comfort of their domestic animals? A merciful man is merciful to his beasts. There is, perhaps, no rural scene more pleasing than that of flocks and herds resting at Summer noon under the shade of trees, or cooling their hot limbs in some running stream.

We take off our hat and grasp the hand of Mr. D.'s foreman, who, on being ordered by the proprietor to demolish every tree in a certain pasture, came back at night, saying: "I cut down all but two; they were *so handsome* I could'nt do it; I couldn't touch 'em. If you want them felled, you must do it yourself, for *I won't.*" Good, Sir! The panting steers will thank you, and so will we.

Fruit Stealing.

We are not disposed to speak in measured terms on this subject. There is a laxness of public morals in regard to stealing fruit, which demands earnest efforts at correction. Many persons seem to think that the law of the land against thieving, and the higher law, "Thou shalt not steal," do not cover acts of this sort. Men who would shrink from purloining a shilling's worth of goods from a merchant's store, as a wicked and disgraceful act, will yet steal, and allow their sons to steal dollar's worth of fruit from a neighbor's orchard or garden without compunction; nay, will even think their success in thieving quite a good joke. Young America is free and independent, a lover of the largest liberty, rebellious at all restraint. But might he not be improved, in some respects? Verily, we think he might. In England and on the Continent, fine statuary, choice fruit and ornamental trees are exposed to public inspection in parks and gardens, yet seldom does a wanton hand deface the one, or despoil and pilfer the other. Whether this comes from fear of the law, or a high sense of propriety, we care not now to consider. We who profess to be the grandest nation on the globe, should do right, from some reason or other. Public and private property should be held sacred. No man should maltreat a church building, or a town-hall, or the trees and fences of a public park. No man, or man's son, should pilfer his neighbor's fruit, or make too free with his neighbor's shrubs and flowers.

In correcting the evil here spoken of, parents and teachers have much to do. They should teach the children under their care that, to trespass on a neighbor's property, is both disgraceful and wrong. They should inculcate continually a high sense of honor, a pride of character, that will not stoop to do a mean thing, even though it may not be detected, or though public sentiment may wink at its commission. "John, let's go and rob Mr. Smith's young pear orchard, to-night," said a lad to one of his companions, "no one will see us." "No one see us!" replied the comrade, "yes, God would see us, and I should see myself; and that would be two too many." Nobly spoken! A man should feel that in doing such acts, he is degrading himself, making himself unworthy of his own respect or that of his fellow men.

We are far from holding that a man may in no case take of his neighbor's fruit without permission. A traveler may refresh himself in welcome with an apple from a tree by the road side; or, in passing across a neighbor's fields, one may eat occasional fruits which seem to be abundant: no one will object to this. But to enter gardens and orchards secretly, by night or by day, for the express purpose of stealing, and to carry away fruit, more or less, *that* we stigmatize as cowardly and wicked. The case is worse, where the fruit stolen is rare and costly. Instances occur frequently, like the following: A man, fond of horticultural pursuits, hearing of some superior fruit just introduced, in a distant part of the country, obtains it at considerable expense and trouble, and plants it in his garden with the greatest care. He digs and manures, he waters and preserves and nurses it from year to year, watching its growth and longing to see and taste its fruit. At length, on some fine Spring morning, a few blossoms appear; as Summer passes away, the fruit develops, matures and takes on the beautiful tints of full ripeness. The happy owner now fixes on some day when he will gather the long expected fruit, and share it with his family and friends. On the morning of that day, as he walks through his garden, his heart fails him to see his favorite tree battered, and its fruit missing! The thief has got the start of him. Now, is this a thing to be winked at, as a very small affair? The injury sustained in this case is something more than the loss of mere money. What satisfaction can one take in rearing choice fruit, when he knows that some vile thief may rob him in a single night, of the results of years of care and labor. Indeed, we all know that many zealous horticulturists have abandoned efforts of this kind for the simple reason above alluded to. They can not put padlocks on their gardens and orchards, and public sentiment does not frown severely on fruit thieving, nor encourage prosecution for such offenses.

We have no more to say at present, except to raise our remonstrance against these things. We beg parents, school teachers and all good citizens to use their best endeavors to rectify this evil. Cultivate in the young a right *conscience* on this subject; hold up to scorn the fruit-stealer prowling about at night, when honest people are asleep. Were the public sentiment thoroughly purged, this evil would soon be abated. Is there not a good time coming when we Americans shall be as honorable and virtuous, as we are liberty loving and progressive!

"My dear Tom," said old Sheridan, one day, to his son, "I wish you would take a wife." "I have no objection, sir," said Tom, "*whose wife shall I take?*"

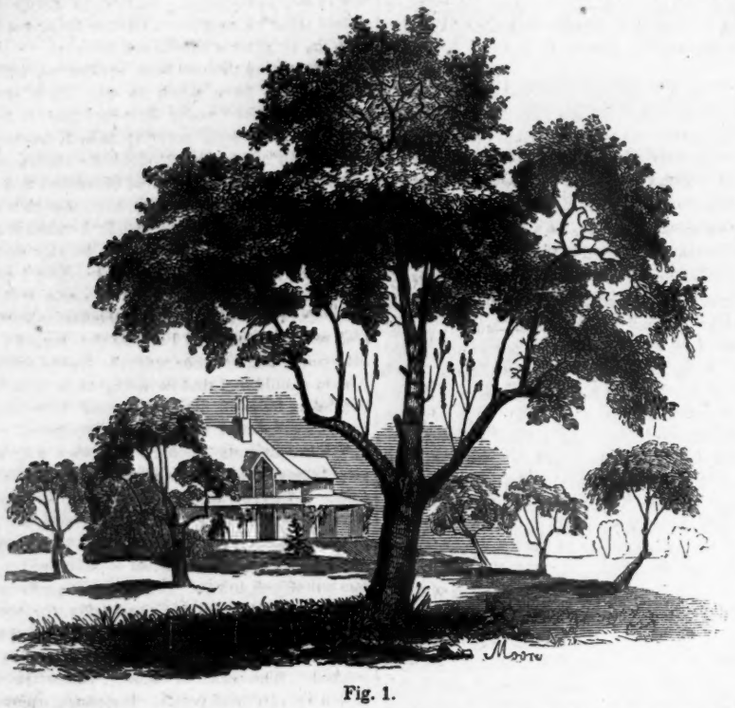


Fig. 1.

Suggestions on Pruning Fruit Trees.

BY A. O. MOORE, NEW-YORK.

A correct system of pruning, more than any other one thing, is requisite to enable us to progress in fruit culture. Nothing so surely distinguishes the good cultivator from the unpracticed, as the handling of the pruning knife and the trim of his trees. No means within the knowledge of man is so effective, or gives us such control over the whole economy of the tree as good pruning. Where well understood, and where a knowledge of the principles of vegetable growth is added to intelligent practice, pruning is made to produce the most varied and even opposite results. We prune to diminish nutritive vigor, and prune to increase it; to diminish the generative or fruit-producing tendency, and to increase it; to encourage the feeble and reduce the over luxuriant; by a variation in the same process, under favorable circumstances, we can paralyse the leaf bud, producing thereby a blossom bud; and we can stimulate the blossom bud until a leaf-bud will be developed. Surely, an instrument of such power cannot be lightly esteemed.

In applying myself to the task of criticising the general mode of cultivating fruit trees, I have selected for my "text," a tree which would be generally esteemed a fine specimen of an old apple tree. I have purposely chosen from Nature one that is above the average in good shape, size and thrift, so as to show the tendency, even under favorable circumstances, toward that form which subjects the cultivator to great inconveniences in the management of the tree, and which is most unfavorable to continued vigor and productiveness.

I shall consider that I have done a good work, and quite enough for the limits of one newspaper article, if I can convince my readers that the mode of pruning which is almost universal in this country, even in what are termed well-managed orchards, is wrong, and I may be excused for not attempting at present more than this. To give the better method founded upon and adapted to American experience and practice, should not be lightly undertaken.

Taking the tree which forms the principle subject of the engraving above, (fig. 1,) as the type of the form which the usual treatment of fruit trees produces, you will notice that the whole growth of young wood and leaves is in the upper part of the tree. This occurs in obedience to a law of vegetable growth, which gives greater developement to the terminal buds, and to those shoots which are nearest to the extremities of the branches. This tendency is very much increased by the pruning which has been practiced by the cultivator, who evidently had a very indefinite idea of the objects to be obtained by this operation. Yet, having heard from his infancy that fruit trees should be pruned, with such generalities for his guide in the way of instructions, as "thin out the top," "take out weak or decaying branches," "keep the head of the tree open," &c., &c., he has applied axe and saw to the limbs most conveniently reached, especially as he finds these to be the weaker branches.

Observe the lower limbs of any tree of over 20 years growth, and you will see that they have commenced to take the same *elbowed* shape represented in the engraving. While the tree is young and growing rapidly, these lower branches have a fine upward curve, the concave side being toward the centre of the tree, and having never met with any check in their natural aspirations toward the light and free air, they are long and slender.

Fig. 2.

Fig. 2 may be considered as a fair specimen of a young apple tree under this management. The only pruning it has received being to cut away conflicting branches and thin out the top. It has never yet borne a full crop, though a few apples have annually gladdened the cultivator's eyes for several years. At length comes a good "apple year," and the tree is loaded with fruit. The extremeties of the branches doing double duty, the weight bears the long slender limbs heavily downward and outward. The farmer, perhaps, grudgingly removes a little of the inferior fruit and props up the freighted limbs. The crop is removed at maturity, and fig. 3 will represent the altered shape of the tree. The next year being "a poor apple year," as of course it must be, the tree has nothing else to do but to grow, and as far as i

Fig. 3.

can, to repair damages. The effect of bending so violently the branches, is to compress the sap-vessels where the curve is made, and the sap finding its way to the extremities of those branches with great difficulty, new shoots are forced from the upper side of the curve, into which rushes all the sap intended for the bowed branches. These shoots then grow vigorously, and being of a coarse, rank growth, come slowly into bearing.

Fig. 4 will show the tree in this phase of its development. As these shoots bear no fruit for a number of years, they grow rapidly, and the old extremities continuing to bear every other year with a deficient supply of sap, soon become exhausted, and in pruning are lopped off at the foot of the vigorous new shoots. In this way are produced

Fig. 4.

these elbows, leaving the blackened stump of the limbs unhealed and unhealable. These upright shoots having at last grown into maturity, in their turn, bear an over crop, and being neglected repeat the process of bending and throwing up new shoots from their constricted branches until the tree has no longer the requisite vitality to renew its growth.

As a summary of the *evils* which result from this shape, so common as to be nearly universal in our orchards, and of which our engraving is certainly not an exaggeration, I would enumerate the following objections:

First.—The loss of much valuable space for fruit bearing. The circumference of the tree, being a dense mass of leaves and branches, shades and confines the interior and lower parts so as to deprive them of their share of sunlight and air, thus causing them to become sterile and vacant.

Second.—The best fruit spurs will, under proper management, be grown near the trunk of the tree and its main branches. These being suppressed, the tree bears principally upon the less desirable

spurs, and consequently we have inferior fruit.

Third.—The weight of the fruit being placed at the extremity of the branches, there is a greater *leverage* to break or bend the limbs.

Fourth.—The action of the wind upon high trees, or upon the tall, top-heavy small ones, causes those crooked, bent, leaning attitudes, which our trees assume in spite of our tying, staking and propping. Indeed, so universal is this evil, that it is thought by some to be a harmless as well as unavoidable thing. And when these long swaying branches are filled with fruit, their graceful motion as they bend and clash in the wind, may delight the Artist or the Poet, but the Farmer will fail to share the sentiment when his fruit, half ripened or just ready for the careful hand of the picker, lies bruised and almost valueless before him.

Fifth.—In fruit trees which have been subjected to man's cultivation for several generations there is a tendency at some period of their growth to an excessive production of fruit. Nature, careful that her children fail not from the face of the earth, provides for waste, accident and loss. This over productiveness must be obviated by man by removing the superfluous fruit before the tree has exhausted itself, or divided the nourishment among so many recipients as to reduce the size and quality of all. But by what known contrivance can the cultivator get access to the top of of his umbrella-like tree, so as to remove with the requisite quickness and care the superabundant fruit?

Sixth.—All the operations of Summer and Winter pruning are with greater difficulty performed; indeed, with trees of this form the proper attention in this respect *cannot be given.*

Seventh.—If the fruit or foliage is attacked by *insects*, as one or both are almost every year, the enemy is generally not discovered until too late to prevent injury, and then the labor of removing them is much increased by this shape. Millions of bushels of apples and pears are destroyed by the host of "codling moths" which frequent our orchards to deposit their unfriendly eggs upon the young fruit. The "Tent Caterpillar," the "Canker Worm," and a legion of other insects, prey upon the foliage and cover the branches with unsightly webs, and the books urge remedies which demand a ready access to every part of the tree, to destroy the eggs or drive away the pregnant moth, by lime dustings or "savory burnt offerings," or adroit applications of thumb and finger. Alas! the farmer stands with upturned eyes under his "green umbrella," pockets his hands and shakes his head, meekly resolving to be content with what the worms will leave rather than undertake that job.

Eighth.—In gathering the fruit which the winds and worms have left, the difficulties are greatly increased. The tree has grown beyond the reach of step-ladders of any portable dimensions; the investment in patent fruit pickers, with long handles spliced to a greater length with defunct rake handles, has proved not very satisfactory, (and no fault of the patentee either,) and the long, naked stems do not offer a very secure foothold. The result is a resort to shaking and thrashing the branches with poles or clubs to obtain any considerable portion of the crop.

Ninth.—The sap, having a great distance to traverse between the roots and the leaves, acts with less vigor in the nourishment of the tree; and not finding easy and proper channels for its flow, there is a great tendency to throw out sprouts and suckers from the lower parts of the tree.

IN DOOR WORK.

Some engravings of Household Implements, designed for this number, were unexpectedly delayed.

That Sewing Machine.

"How do you like your Sewing Machine after three month's trial?" asks an Iowa lady. Ans. Better than ever. We could not, or would not part with it on any account. It has bothered us somewhat, yet not half so much—no not a tenth part as much as the first horse-power and thresher we set up as a fixture on the old farm. Whatever the manufacturers may say, we say there is not a machine made which can be taken in hand by any and everybody, and worked perfectly in a day or two. It is useless to talk about getting up a very "*simple* machine" which will execute sewing perfectly. You want it to do well, what the fingers accomplish when guided by *intelligence*, and to do this, complication of parts is absolutely necessary. When one of the venders of low priced machines tells us that their implements consist of only a foot pedal, a wheel and a needle, we tell them "there is a screw loose," or rather a dozen of them wanting. And it is nonsense to say that one wholly unacquainted with wheel work of any kind can take up the "simplest" machine even, and work it perfectly, without some patient effort in learning.

Our own machine is just as simple as we ever expect to find one which will work well, and yet some trouble was experienced with it at first, such as getting used to the treadle movement, changing and putting in the needles just right, giving the thread the exact tension, tightening the wheel strap, gauging the length of stitches, &c, but all those difficulties are pretty much over with, now that the women folks have "got the hang of the thing."

The Sewing Machine has usually been very obedient, since finding its mistress would conquer. And what a faithful and efficient seamstress it is—always at home when you want work done; never troubled with beaux, nor with aching shoulders, nor with the mumps, or mopes.

Do you want a couple of new shirts to start on an unexpected journey to-morrow? Just step down to the village store and buy the muslin, the linen, the buttons and thread, and wife—if she have a good machine and have learned to use it—will make one of them complete, finely stitched bosom, wristbands and all, during the forenoon, before looking after the dinner table, and the other in the afternoon before tea, in ample time for Biddy to starch and "do them up" before going to bed. This is no fiction. We never expect to again see in our house the industrious needle plied all day long and late at night to partly finish a nicely made shirt. The sewing machine, stitching with the greatest regularity and perfection a full yard in two to four minutes, has changed matters entirely. The little ones need no longer be turned over to the tender mercies of Bridget in the kitchen, while the mother works all day to bring up the back sewing. She can spend the day in amusing and instructing them, and after they are asleep, do more and better work in an hour or two with the machine, than the best seamstress could accomplish in ten hours of the most industrious toil with the hand needle. Why, in a single afternoon between dinner and early "tea," our machine has made six *pairs* of pillow cases, sewing each one across the bottom, up the side and stitching it neatly all around the top.

But we must stop this writing or our readers will think we are in league with the manufacturers. We are not though; they charged us a large sum for our machine, we thought, and we are under no obligations to *them*; we make them pay a large price in turn, for every line they advertise. They tell us, however, that they have never got back the money they expended in experimenting at first, and that until they do this and can get up the machine more cheaply than now, they can not sell them any lower. We suppose this is so, but we hope the day is not far distant when *good* machines will be sold so low that the poorest woman will be able to raise money enough to buy one, and lay aside the hand needle forever. Still, we think the machines will continue to be improved, and added to, rather than simplified, and the expense of making will, if anything, be increased. The horse power and thresher, above alluded to, cost us only about one-hundred dollars, but we would not to-day buy one costing less than twice that sum. And, so far as we can see, the low priced machines are not the cheapest. Some of them would not be cheap if furnished for nothing and the thread thrown in.

Enough on the topic for this time. We intend to have another talk on the matter, when we can get some engravings made to show *how* the machines sew, for that is a mystery to many, even of those who have already learned how to put in the cloth, turn the wheel, and execute fine stitching.

Gas making and Candle Wicks.

Did you ever visit a gas house, reader? No? Then let us go over to the outside of the city or village, and take a look at the one located there. We are there, inside the building, and what do we see? Here is a row of cast-iron tubes, each as large as a cannon. They are placed in solid brickwork, side by side, with the open ends just in front. These open ends are each supplied with a tightly fitting cap to close them up, when desired. Under these iron tubes, called retorts, are fire arches, so that they can be heated to redness. In the upper sides of the large retorts are small tubes extending upward, and off to another room, where they go down into water vats.

Now they are just charging some of these tubes, to make gas for lighting the town to-night. The workmen take off the caps from the ends of the retorts. Into one we will suppose they put a quantity of coal; into another, tallow; into another, refuse fish oil; into another, rosin; into another, some pieces of wood. They now close the openings, using a little soft clay to make them air-tight, and then build the fires underneath.

The enclosed materials—bituminous coal, grease, rosin, tallow or wood, are soon heated to redness, but as no air can get to them they do not burn, but gradually change to colorless transparent air-like vapors, which pass up into the small tubes, off into another room, down into the water, and bubble up through it into a large round vessel turned bottom side up in the water.

If we wait a few hours, until the workmen let the fires go down and open the large retorts, we shall find very little of the materials put into them left, although nothing has escaped but an invisible vapor or gas. Where coal is used, however, there is quite a quantity of a substance remaining, called coke. If we now go to the inverted vessel which has caught the escaping gas, we shall find in it, apparently, only air, and if a hole be punctured in the top, a jet of this apparent air will be felt to escape, though it cannot be seen. But apply a match to it, and it will burn with a clear white

flame, when it comes in contact with the air. You will observe that a very similar kind of gas comes from all the tubes, whether they were filled with coal, oil, rosin, or wood. If now tubes are attached to this vessel and it be pressed down into the water by weights, a jet of this invisible gas will escape, and can be lighted at the other end. These tubes for conducting the gas can be stretched miles away to carry the gas to any point where light may be wanted. Large pipes are laid down in the street, under ground, and from these smaller ones branch off into the buildings. With the exception of some lime vessels through which the gas is passed when just made, we have described all the essential apparatus of a gas manufactory. The gas for burning is simply grease, or rosin, or coal, heated to a vapor, just as we would change water to steam in a steam engine, only that greater heat is required to vaporize these more solid substances. But we need not go to the city or village to see a gas manufactory. Every house has one, two, three, or more gas factories. That tallow candle, or oil, or fluid lamp, is a little gas factory of itself, and you are actually burning gas as much as your aristocratic city cousins, and precisely the same kind too.

The tallow, oil, or fluid (which is in part distilled rosin) is drawn into the hot wick, which evaporates or converts it into gas, just as does the hot iron in the gas house.

The gas made by the candle or lamp wick, comes at once in contact with the air, and is consumed. (At another time we shall try to explain just what takes place in burning, and *how*, and *why*, the light is produced, which is a very interesting matter). One point more just here. All the blaze produced in burning wood, or any kind of fuel giving out a flame, is simply the burning of a gas of just the same kind as that made in the gas house.

If you examine a candle flame closely, you will observe a dark spot around the wick. This is a space filled with gas unburned. Only a thin film burns on the outside of the flame.

Put one end of a little tube down inside of the flame, close to the wick, and the unburned gas will rise up through the tube, and it may be lighted at the upper end.

A PRACTICAL SUGGESTION.

If you look at the wick closely, you will see that it is surrounded with the gas which keeps the air away and prevents its burning. The wick darkens the flame a good deal, and this is one reason why gas made elsewhere, and burned as it escapes from a tube, gives a brighter light than a lamp or candle requiring a wick. As the tallow in a common candle wears away, the wick bends over and projects through one side of the flame. There it comes in contact with the air, and is gradually consumed, as you will see by the bright spot on the end. Now, it is desirable to have as little wick as possible to interfere with the light. To this end it is better to make all candle wicks as tightly braided or twisted as possible. If too small, they will bend over, and melt away the grease on one side.

In spermaceti, and other kinds of candles not melting easily, the wick is made so small that it bends over very soon, and coming in contact with the air, it burns off, and requires no snuffing.

A Good Wife.—That young lady gives rational security for becoming a good wife, who does not apologize when you find her at work in the kitchen, but continues her task until it is finished

Notes on Cooking, &c.

PICKLING SWEET APPLES.

Here is something we know to be good:

To one half peck sweet apples make a syrup of 2 lbs. sugar and 1 pint of vinegar. Boil the apples in this syrup until tender; then remove them, and make a new syrup of 2½ lbs of sugar and 1 pint of vinegar. Add one teaspoonful of cloves and one of cinnamon tied in a bag. Let the syrup boil 15 or 20 minutes; then pour it, while hot, over the fruit. The first syrup is good for other sauces.

PUMPKIN PRESREVES.

The following is home-tried and proved:

An excellent and economical sweetmeat is thus prepared: To 7lbs. of pumpkins take 5lbs. of sugar, 4 lemons, and 2 oz. of green ginger root, to be obtained at most grocers' stores. Cut the pumpkin in slices, half an inch in thickness, and in size and form to suit the fancy. Boil the pumpkin in the syrup, until tender. Then remove it and add the lemons and ginger root. These should be sliced thinly and scalded before being put into the syrup. Boil it down until it is rich enough to keep without fermenting, and then pour it over the pumpkin. If the ginger root cannot be obtained, lemons alone impart to it an agreeable flavor.

COOKING TURNIPS AND CABBAGES.

"Sophia," of Columbus, Pa., sends us the following: Pare the turnips and cut them into slices only one-fourth of an inch in thickness. Stew them in just water enough to cook. When soft, mash them with a common potato masher, and season to the taste. In this way all the sweetness of the root is retained, which is not the case when a large quantity of water is used. Cabbage stewed in same way is excellent.....Query. Unless liquid enough is used to leave them watery, is there not danger of their scorching? How would it answer to put the thin slices into a dish without any water, and set them into a vessel of boiling water; or in a steamer. If set in a basin in hot water, a plate might be put over to keep out water or rather steam from above. We leave the experiment with the ladies.—Ed.

SUET PUDDING—CHEAP AND GOOD.

We often enjoy a very excellent suet pudding, so called, which we do not remember to have described. We should rather call it a suet cake. We last evening asked for a "prescription," and received the following: Take one teacupful of molasses, one of sweet milk, one teaspoonful of soda and one of salt, half to three-fourths of a cup of finely chopped suet, or a half a cup of butter, half a teacupful of currants or raisins, (if desired.) Stir together with, say three teacupfuls of flour, or enough to form a stiff batter. Add nutmeg or cinnamon to suit the taste. Put into a greased tin basin, or in a mold, and cook two to three hours in a steamer. This comes out "as light as a feather," and makes a nice dish for the supper table, especially where cream can be had to eat with it.

LOAF CAKE.

A lady sends the following to the *Agriculturist*:

Take three cups of milk, one cup of sugar, half a cup of yeast; make a thick batter, and let it stand over night. In the morning, add two cups of sugar, one and a half cups of butter, one egg, and spice as you like.—This strikes us as being new, but in the absence of the Editress we dare not pronounce upon *that* point. We do not quite understand what comes after the "spicing as you like it? Is there to be no raising in the morning? How is it to be baked? Ladies, please give all the *particulars*. A good many fellows have gone to keeping Bachelor's Hall since the "hard times" came on, and they have subscribed to the *Agriculturist* to get your help—don't forget the particulars required by entirely new hands at cookery.

SODA CAKE AND CREAM CAKE.

Mrs. L. A. Mitts, of Black Hawk County, Iowa, contributes the following two formulas:

Soda Cake, one loaf.—Beat together slightly one egg and one teaspoonful of dry sugar. Mix well with one teaspoonful of soda dissolved in a teacupful of sweet milk, 2½ tablespoonfuls of melted butter, one pint of flour measured and then sifted, 2 teaspoonfuls of cream of tartar, and extract of lemon to suit the taste. Bake quickly in a basin in a hot oven. [A recipe very nearly like the above has been used in our family for a long time, and is much liked. A smaller quantity of butter will suffice, unless a rich cake is desired.]

Cream Cake.—Three teacupfuls of sugar, 3 of thick sour cream, 5 eggs beaten, 2 even teaspoonfuls of soda and 2 of salt. Mix well with flour enough to make a batter, flavoring to the taste. Bake quickly in two three-pint basins, or in patty pans.

Price of Sausage Fillers.—*Error corrected.*—In describing this implement, on page 295 of last number, the price was stated at $1,75 and upwards. It should read: $3,75 and upward, as the lowest price of those with a wheel and crank is $3,75 at the House Furnishing and Agricultural Stores.

Going to Market.

We recollect a story told us in our boyhood by an old farmer, of two of his neighbors living about five miles out of the nearest market town. One of them was building a house and, of course, had carpenters and masons on hand, whom he boarded while doing their work. As his own limited provisions were insufficient to furnish this extraordinary draft on his household supplies, he had to buy.

One Sunday morning, a neighbor living a mile or two beyond him, came jogging down the road on his mare, with a mule foal following—it was the fashion to raise mules in those days in New England—and under him, on the saddle, a well filled grain bag.

'Good morning, neighbor Hawkins, what have you got in your bag?'

'Mornin', mornin', responded Hawkins.' 'I've got a bag o'beans that we didn't want at home, and so I thought, as I hadn't much to do to-day, I'd go into town, and sell 'em.'

'Well, what are they worth?'

'Don't know exactly. Joe Styles tell'd me he got seven shillings for his; so I s'pose that's about the goin price.'

'I'll tell you, Hawkins; I want some beans; and if you'll let me have 'em, I'll give you that, and so save your going into town, and you can go home and do a day's work to boot.'

Musing a little, and scratching his head, 'no I believe not,' said Hawkins, 'the old woman wants a little tea, and other notions, and I guess I'll go along. Maybe I'll get seven and six for 'em'.

'Very well,' replied Jotham Bently, as he turned round to look after his carpenters, and away rode Bildad Hawkins to market his beans.

Being a man of humor, and thrifty withal, as soon as Hawkins had turned into the right hand road over the hill, Bently got up his horse, saddled and mounted him, and jogged on after, keep-

ing far enough in the rear to be out of sight, yet near enough to understand his movements.

An hour or so, brought Hawkins into town, when he stopped at one store, then at another, and so on, till he got to the 'Cheap Cash Emporium' of a dealer in 'East and West India goods, and Produce in general.' After tying 'old Doll' at the post, and a stay inside of a few minutes, out he came, lifted the bag on to his shoulder, and took it into the store. In half an hour, or so, out he came again, with his pipe in his mouth, puffing away stoutly, with bag in hand, and hanging down at each end, which he swung on the saddle, mounted 'old Doll,' and turned her face homeward. Bentley who had hitherto kept out of sight, soon came into the store, and inquired of the Store-keeper if he had beans to sell.

'Yes,' said West India; 'I just took a bushel and a half, real good ones, of Joe Hawkins, who lives somewhere in your part of the town. I guess they'll suit you.'

'What's the price?'

'Why I gave six and sixpence, but as I paid in tea, snuff and allspice at retail price, you may have them for the same, *in money*.'

'I'll take them;' and without more ado, the beans were measured up, put into the bag, and away went Bentley, by a cross road, over which, with a little hurrying, he got home before Hawkins had turned down the hill past Bentley's house, where he found him quietly repairing a broken picket on his gate, 'as if nothing had happened.

'Well neighbor Hawkins,' cheerily asked Bentley, how did you make out with your beans?'

'Pooty fair; got my price, and traded it out a'rter'ards, as we wanted a few notions for housekeeping. Guess though, I'd done as well to let you had 'em.

I guess so too,' leered Bently; for I have got the same beans now in my kitchen, which I bought just as you left the store, of West India himself, for six and sixpence, which he said was all he gave you for 'em, and *paid in dicker!*'

The switch went down into 'old Doll's' hide in a moment, while she and her long eared progeny aforesaid turned smartly 'up the hollow,' and Bildad Hawkins was not seen riding past Jotham Bentley's house again *that* Summer.

Pennsylvania Farm School.

The Secretary, Wm. G. Waring, desires us to acknowledge the following recent contributions to archives and grounds of the State School.

Jas. S. Barr Esq., Huntingdon, Pa., a copy of Worcester's Dictionary.

Dr. Chas. G. Reinhold, Boalsburg, Pa., a copy of his Farmer's Promotion Book.

J. Winebrenner, Harrisburg, Pa., combined clod-crushing harrow and roller.

G. C. Bucher Esq., Pa., plants of Peabody's Hautbois, and Scott's Seedling Strawberry.

John Evans, Erie, Pa., seed of Etrurian Wheat.

Jas. S. Barr, Huntingdon, Pa., Worcester's Pronouncing, Explanatory and Synonomous Dictionary.

Thos. Evans, Erie, Pa., seed of Etrurian wheat.

J. Winebrenner, Harrisburg, Pa., Gourly's harrow and clod-crusher. This effective looking implement will be useful here.

Dr. C. G. Reinhold, Boalsburg, Pa., a copy of his Farmer's Promotion Book, and the right of use of his portable rack fence—an exceedingly simple and cheap fence.

J. B. Garber, Columbia, Pa., plants of several new varieties of grapes and seeds of trees and plants from the Northwest Territories—very interesting and valuable.

Josiah Hoopes, West Chester, Pa., plants of new raspberries and grapes.

Dr. C. W. Grant, Iona, near Peekskill, N. Y., plants of new grapes, with specimens of the Ohio Delaware, far surpassing the Isabella in flavor, and much earlier—quite decidedly the richest hardy grape ever tasted here.

Jesse Heacock, Millville, Columbia County, Pa, right for use of portable fence—McIlroy's patent. (Will be tried.)

Chas. Downing, Newburg, N. Y., Downing's seedling gooseberry, and the revised edition of "Fruits and Fruit Trees of America."

Wm. G. Huyett, Williamsburg, Blair County, Pa. His improved reaping and mowing machine, and cornstalk cutter and grinder. (The latter will be tried shortly—both machines have a high reputation.)

J. H. Gould & Co., Alliance, Ohio, box of husking thimbles, just received and tried one day. Some hands are greatly pleased with them—others prefer the old "skiver."

Messrs. D. Appleton & Co., publishers, N. Y.. a copy of Gillespie's Surveying—a very complete and superior work—and Youmen's Class-book and Atlas of Chemistry—a novel and beautiful work of evidently great educational value.

Hickling, Swan & Brewer, Boston. Tate's Natural Philosophy, and Hill's Lessons in Geometry—both well adapted to convey instruction.

Philips, Sampson & Co., Boston. Sargent's Readers—books of very high merit.

If there be any Man who can

Sit coolly down, amid the rush of letters that has crowded in upon us during the last two weeks, and in 24 working days do the amount of *thinking* needed to write, or get written, collect, select, correct and arrange the mass of articles, engravings, &c., required to fill a single paper of this size, and yet make everything in the paper tip-top, we should like to engage his services immediately at any price. We will surrender the chair editorial at once, and for ourselves act only as publisher. How many fine plans laid out for this number have been crowded over for a month, if not two. Let us get by the month of January, and we will see what we can do in the March number. It is unfortunate that the first two numbers of the volume which ought to be the best are necessarily the poorest of the year, for the reasons aforesaid.

OUR BASKET

Into which are thrown all sorts of paragraphs—such as NOTES *and* REPLIES *to* CORRESPONDENTS, *with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources.*

TO CORRESPONDENTS.—Please remember that the moment one paper is issued we commence preparing the next and all communications or articles designed for any number should be on hand, if possible, very early in the previous month. These pages are not made up of simple extracts thrown loosely together, but much care and thought are devoted to every column. Give us time, or expect articles to be "laid over." Further, just now we are receiving thousands of letters every week, very many of which contain more or less inquiries and suggestions on all kinds of work. Such letters are necessarily laid by for an appropriate season. For example, we have letters just received containing suggestions on corn husking, wheat sowing, &c., which will be just in season next autumn, and these are filed for that time. Others require special investigation, or engravings, and of course must wait their turn.

NAMES OF WRITERS must always accompany letters of inquiry, and indeed all others, or a notice of them need not be expected. We have received many letters from persons signing themselves "subscribers" only, and some of these have been from Post Offices where we have no subscribers. Such letters have gone into the "kindling basket." When a particular request is made to that effect, the name of any writer will not be published,

Sheltering Cattle.—W. C. A., Tioga Co., N. Y. Cattle should be housed at night as soon as the cold rains of Autumn come on. They should be yarded nights during the Summer season even, to be handy for milking and to save the manure. If the barn has open sheds or hovels attached, they will afford the requisite shelter until cool weather, when cattle should be stabled to keep them warm, to afford a sheltered place to feed them in, and to save the manure. These matters are discussed elsewhere in this number.

Trimming Hedges.—N. B. Robbins, of Plymouth Co., Mass., will find June and July the best time to prune or cut in hedges. They are then in a vigorous growing condition, and soon heal over the wounds made by the knife or shears.

Tooth Wash—Powders.—S. S. Medary, Wis.—Never buy any of these, as you are quite as apt to get a positively injurious article as a good one. Those powders and washes which are most effective in cleansing the teeth and rendering them white, are just the things to spoil the natural enamel and thus destroy the teeth. Nine-tenths of the tooth-washes sold by pedlars are a mixture of hydro-chloric acid and water, costing 50 cents to $1 a barrel, but sold at from 12 to 25 cents the small vial. The acid in them soon destroys the teeth. A stiff brush and clean water, or water and a little hard soap is the best tooth-cleanser. The teeth should be cleaned just before going to bed, as food or decaying vegetable matter remaining on or between, the teeth sours during the night and decays the teeth.

Keeping Onions.—J. B. Medbock, of Elk Co. Pa., referring to a basket note, Vol. XVI, page 235, says he keeps his onions designed for planting in a dry place, but allows them to freeze and thaw freely, only avoiding any stirring or shaking of them while frozen. He says they grow just as readily in Spring. Those used for eating are put to cooking while still frozen, and he thinks they are all the better for the freezing.

THE NEW MAGAZINE.—The ATLANTIC MONTHLY, published by Phillips, Sampson & Co., Boston, promises to be a sterling affair. We have little time for magazine reading, and have found so little worth reading in most of the so-called literary magazines of the country, that we seldom take up any of them, with the exception of the National Magazine and the Ladies' Repository, both of which are issued by Carleton & Porter, of this city. In the first two numbers of the Atlantic Monthly, however, we have found a rich intellectual treat. It abounds in original thought addressed to the mind, the intellect, and not to the fancy or fashion. From the list of contributors engaged, and the character of the first numbers issued we shall look for a monthly intellectual feast, such as we have not before found in this country, and we have no hesitancy in recommending this magazine to the attention of all who desire a class of reading of the kind above indicated. It may be obtained of the publishers, as above, at $3, per annum, post-paid, or of most book and periodical dealers in the country at 25 cents per number.

Boys and Girls Own Columns.

What a Question to Ask!

Many hundreds of miles away, lives one of our old subscribers, whom we have never seen, but who must be our special friend, as he takes very much pains to set us right whenever he thinks we chance to step a little aside from the course which *he* thinks just proper in the conduction of these columns. We call him our "friend," because we think the very best friend we have is the one who is frank enough to tell us of our faults. All have more or less failings, which they are not themselves aware of, but which are plain enough to everybody else; now how kind it is in others to point out these failings, that they may be corrected. Boys and girls, you should be thankful to any one who will tell you of your faults, so that you may see them too, and guard against them.

But we are getting a great way from what we commenced to write above. A little while ago the friend alluded to sent us a pretty long letter, and almost the first sentence we saw in running our eye over the sheet was this: "Don't you think you are lowering the character of the *Agriculturist* by introducing that boys' and girls' department, filled with problems, children's stories, &c.!

No, SIR, we do not. Why, man, what put that into your head? *Lower* the character of this paper because we devote a page now and then to such things as will specially amuse and interest our youthful readers? No, sir. Why, the happiest hours of our life are spent with children. How many times during the weary labors of the day are we cheered by the thought that when night comes, we can go way out to our country home and have a romp and frolic with our little ones who are waiting impatiently for "papa to come home." That long ride at sundown would be twice as long if there were no children (and their mamma, of course,) at the other end of the route. And when Sunday morning comes, and our weekday cares are laid aside, how we love to get up early and take a walk or ride to a distant school room, where we can gather around us a large group of happy children in a Sabbath School, and sing sweet songs and talk of pleasant things. Why, the whole week of talking with and writing for grown up people gives no such real pleasure as we enjoy during these few hours spent with children. How often we wish the tens of thousands of boys and girls who read these pages could now and then *all* come and join in one of those glorious songs we sing. Here is the first verse of one we shall sing to-morrow morning—it is Saturday night now, Dec. 19:

"All the week we spend full of childish bliss,
Every changing scene brings its happiness;
Yet our joys would not be full,
Had we not the Sabbath School.

Another song begins thus:

"Welcome, welcome, quiet morning,
I've no task, no toil, to-day;
Now the Sabbath morn returning,
Says a week has passed away"

And here's another which contains such beautiful sentiments that we will print the whole of it:

"There's not a tint that paints the rose,
Or decks the lily fair,
Or streaks the humblest flower that blows,
But God has placed it there.

There's not of grass a single blade,
Or leaf of loveliest green,
Where heavenly skill is not displayed,
And heavenly wisdom seen.

There's not a star whose twinkling light
Shines on the distant earth,
And cheers the silent gloom of night,
But heaven gave it birth.

There's not a place on earth's vast round,
In ocean's deep, or air,
Where skill and wisdom are not found,
For God is *everywhere*.

Around, beneath, below, above,
Wherever space extends,
There God displays his boundless love,
And *power* with *mercy* blends.

Is not that a lovely song? Suppose you each learn it by heart.

'Tis the voice of the sluggard; I heard him complain,
'You've waked me too soon, I must slumber again.'
As the door on its hinges, so he on his bed,
Turns his sides and his shoulders and his heavy head.

We learned this verse when a very little boy. There is more of it, but we have forgotten two lines:

I passed by his garden and saw the wild briar,
The thorn and the thistle grow broader and higher.

Who is called the wisest man? We hear you answer "Solomon." Well, here is what he says of our picture

How long wilt thou sleep, O sluggard?
When wilt thou arise out of thy sleep?
Yet a little sleep, yet a little slumber,
A little folding the hands to sleep:
So shall thy *poverty* come as one that traveleth,
And thy *want* as an armed man. (Prov. vi., 9):

Indian Arrow Heads.

When a boy, upon a Western Farm, we used to find a great many small pieces of flint stone, of peculiar form, which were called "Indian Arrows." In some single fields there were hundreds of them, and every plowing turned up a new crop. It was a puzzle to us to know how the arrows could be of any use, for they never would fit our bows. We have since learned that these stones were simply designed for the heads of arrows, and the indentations in the ends and sides to aid in fastening them in the clefts of the shaft, with a thong, as shown in the engraving. This is an accurate picture of one found at Norwich, Conn., near the burial ground of Uncas, and the other Mohegan Sachems. These arrow heads we have gathered in various parts of New-York, Ohio, Indiana, and in New-England. We have heard of them in Michigan, Minnesota and elsewhere. We suppose very many of our young readers, in various parts of the country, have specimens.

About that Paper.

Last month we laid out some work for winter evenings, which we had no doubt would be agreeable to many of our young readers. We did not ask or expect that all who took the hint and started "Home Newspapers" would send us copies, but it is pleasant for us to know that some of our suggestions have been followed. We have already received one number of a new paper, which we take the liberty of copying in full. Instead of being written, it is printed, and we have no doubt that the editor has taken a great deal of satisfaction in his experiment with types. There is a good deal to be learned from handling types, and we hope some time to write a chapter for boys and girls on that subject. But here is the paper, which does very well for a beginning.

PROSPECT JUNIOR.

Vol. I. Dec. 7, 1857. No. 1

Here is a new paper which will be published occasionally.

Please to excuse all the mistakes you may find, for it is the first copy.

It is rather small; but I have not a very large number of types.

How do you like the name? 'JUNIOR'!

Answers to Problems.

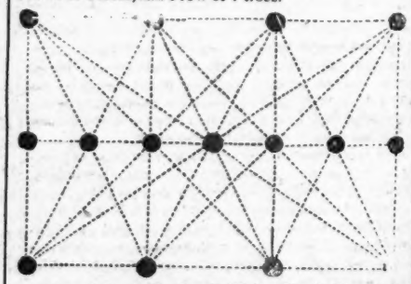
PROB. 11.—Answered correctly by Thos. J. Haile, Md., though differing from the cut in November No.

PROB. 12.—Proved to be rather difficult. Answered correctly (82 cents and 4 mills) by A. V. C., Madison, N. J., and S. Jones, Chester Co., Pa. Joseph H. Simpson, Arispe, Ill., answered 25 cents.

PROB. 13.—Size of box to hold five hundred million dollars in gold, reckoning gold 19½ times heavier than water, and worth $18 per avoirdupois ounce. A cubic foot of water weighs 62½ lbs. avoirdupois. Answered by O. W. D., Great Falls, N. H., 11¼ feet; by G. H. La Fetra, Ohio, 11,3 feet; by Jacob Datesman, Pa, 12,44 feet; by J. E. Walker, Mass., 11,29 feet.

PROB. 14.—By Thos. J. Haile, Md.

PROB. 16.—15 trees in 16 rows, with 3 in each row; also, 2 rows of 4 trees, and 1 row of 7 trees.



Answered thus by A. Myers, Wales, Ill.; J. Vipond, Jo Davies Co., Ill.; M. A. Sterling, Brown Co., Ill.; G. H. La Fetra, Ohio; Chas. M. Foulke, Pa.; N. O. Loundsberry, N.Y.; Sam'l Ring, O. Correct answers, but slightly differing from the above figure, by Serenus Raesly, Pa.; D. Todd, Ill.; Jacob Datesman, jr; Pa.; Hannah E. Wilder. N. Y.; Francis M. Vancil, Ill.; Wm. A. McLean, Pa. A correct, ingenious solution, unlike the above, by J. E. Walker.

PROB. 17.—O. W. D., Great Falls, N. H.

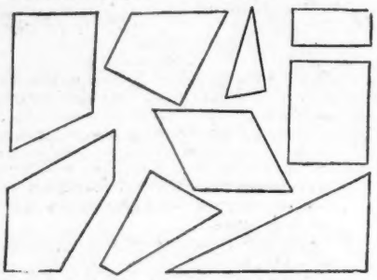
PROB. 18.—Answered by E. W. H., Mass.; Milton R. Shaffer, N. J.

PROB. 20.—To arrange the numbers 1 to 64, in 64 squares, 8 each way, so as to add up perpendicularly and horizontally 260 in each row.

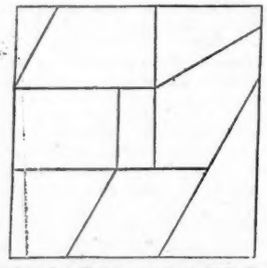
1	60	9	52	21	48	29	40	260
61	8	53	16	41	20	33	28	260
2	59	10	51	22	47	30	39	260
62	7	54	15	42	19	34	27	260
3	58	11	50	23	46	31	38	260
63	6	55	14	43	18	35	26	260
4	57	12	49	24	45	32	37	260
64	5	56	13	44	17	36	25	260
260	260	260	260	260	260	260	260	

Answered by J. R. Zeller, R. F. Brown, S. Raesly, Wm. A. McLean, Chas. M. Foulke, Wm. J. Seltzer, and Sophia, all of different counties in Pennsylvania; by Jasper N. Lantz, Moorefield; Hannah E. Wilder, N. Y, Harvey Shawver, Ohio.

PROB. 21.—To arrange the pieces in the following figure into a perfect square:



The above nine pieces are all in the following square.

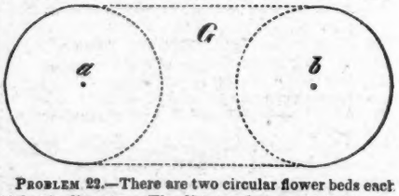


Answered by Jas. Twiggs, Samuel Ring, E. B. Beale, S. Shawver, G. H. La Fetra—all of sundry counties in Ohio; by Isaac Ostrander, N. Y., O. W. D., N. H. The following made commendable efforts, but their drawings needed a little different arrangement to make a perfect square: Wm. Sherwood, N. J.; Samuel Strong, N. Y.; Burdett Hubbard, Conn.; Parvis Puer, N. J.; Jas. T Hurley, Wis.

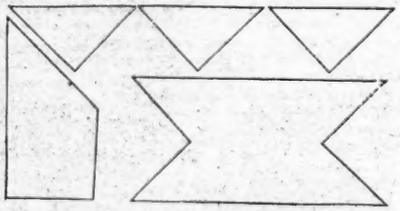
The above are only a small part of the answers received to the different problems, but are all the correct ones, if we have made no mistake, which, of course, we may have done in looking over so many letters.

NEW PROBLEMS.

We have 35 new problems contributed, but can only make room for two now. Others are engraved and ready



PROBLEM 22.—There are two circular flower beds each 12 feet in diameter. The distance from *a* to *b* is 20 feet Question—What will it cost to pave the space *G* between the two circles, with gravel, at 12 cents per square yard?



PROB. 23.—To put the above pieces together, so as to form a perfect cross.

A GOOD ANSWER.—"Well my lad, where are you traveling this stormy weather alone?" asked an inquisitive landlord in the north part of Vermont, during the last war, of a small lad whose father was engaged in smuggling, and had sent him, young as he was, with an important message in advance of the party.

"Going to draw my pension was the reply."

"Your pension," echoed the landlord; "what does so small a boy as you draw a pension for?"

"Minding my business, and letting that of other people alone."

Those Big Dictionaries.

We are happy to say that several Boys have already spoken for the "Big Dictionaries" offered in the December Number. In one case a brother and sister have joined their efforts and will own the Dictionary together.

☞ The offer is still continued through January.

Catalogue of Seeds for Free Distribution in 1858.

Every person whose subscription to the *American Agriculturist* is paid beyond February, 1858 will be entitled to select three parcels of seeds from the list given below.

☞ SEE REGULATIONS OF DISTRIBUTION BELOW. ☜

FIELD SEEDS.

(These are described on page 8.)

No 1—White Sugar Beet.—Our packages of these will contain about 500 seeds, requiring one 3-cent postage stamp.

2—King Philip Corn.—One 3-cent stamp covers about 30 kernels. We shall have packages for one, two or three stamps, whichever any one may choose to pay postage upon. Where seeds go by express (see note C below), the larger packages will of course be chosen.

3—Stowell's Sweet Corn.—About 40 or more kernels go under one 3-cent stamp. Subscribers may choose a single (1 stamp), or double (2 stamp) package.

4—White Poland Oats.—About 300 seeds go under one stamp. Single or double packages are offered.

5—Chinese Sugar Cane.—We shall have plenty of of this. One 3-cent stamp covers about 450 to 500 seeds including envelop; two stamps about 1,000 seeds (1 oz.). Subscribers may choose any amount from one-half to two ounces. ☞ If any subscriber selects no other seed, we will furnish him a quarter pound package put up in a muslin bag (postage 27 cents). These packages are of the same size and like those sold at $1 last year.

6—Ashcroft's Swedish Turnips.—Our packages contain 600 to 1,000 seeds each, and will require not over half of a 3-cent stamp. Some other small package may go under the same stamp.

7—River's Swedish Stubble Turnip. Same as No. 6.

GARDEN SEEDS.

(Described on page 8.)

8—Dan'l. O'Rourke Pea.—About 65 to 70 peas in a package. One 3-cent stamp required.

9—Champion of England Pea.—55 to 60 in a package, one 3-cent stamp required.

10—British Queen Pea.—Same as No. 9.

11—Hairs' Dwarf Blue Mammoth Pea.—About 45 in one package. One 3-cent stamp.

12—Green Kohl Rabi.—500 seeds. One-third of a 3-cent stamp.

13—Enfield Market Cabbage.—500 or more seeds. ½ stamp.

14—Alma Cauliflower.—100 or more seeds. ½ stamp

15—Mammoth Cabbage Lettuce.—400 or more seeds. ½ stamp.

16—Long Orange Carrot.—800 seeds. ½ stamp.

17—Red Strap Leaf Turnip.—800 seeds. ½ stamp.

18—Patience Dock.—100 or more seeds. ½ stamp.

19 Round Spinach.—400 or more seeds. ½ stamp.

20 Salsafy (vegetable oyster).—200 or more seeds. ½ stamp.

21—Winter Cherry—½ stamp—number of seeds will depend upon the supply yet to be received.

22—Mammoth Squash.—Number yet unknown ½ stamp.

FLOWER SEEDS.

(Described on pages 20 and 21.)

These are put up in small packages of various sizes and amounts, depending upon the rarity of the seeds, the number required for a common flower bed &c. One 3-cent stamp will pay the postage on *three* parcels of the flower seeds.

23—Large Flowering Mignonette.
24—Mixed Virginian Stock.
25—Mixed Nasturtiums.
26—Nemophila Insignis.
27—Cockscomb.
28—Dwarf Rocket Larkspur.
29—Mixed Double Balsam.
30—Chinese Pink.
31—Tassel Flower.
32—Portulaca.
33—Cypress Vine.
34—China Asters Mixed.
35—Mixed German Asters.
36—Golden Bartonia.
37—Zinnia Elegans.
38—Sweet William.
39—Marvel of Peru.
40—Escholtzia Californica.
41—Elegant Clarkia.
42—Fox Glove.
43—Red Lavatera.
44—White Lavatera.
45—Mixed Sweet Peas.
46—Mixed Lupins.
47—Morning Glory.
48—Flos Adonis.
49—Candy Tuft.
50—Schizanthus.
51—Phlox Drummondii.

☞ PLEASE NOTE ESPECIALLY,

A. That the above list contains *fifty-one* distinct varieties of seeds to be distributed, according to individual preferences, among 30,000 to 50,000 persons scattered all over the country, now it will be absolutely impossible to do this without immense labor, and many errors, unless each subscriber take especial pains to facilitate the work, by following the directions below.

B. It is of course understood that, as heretofore, the recipient of the seeds will furnish *envelopes ready stamped and directed*, for mailing them.

C. We found it impracticable to make any arrangement here for sending seeds by Express. By enquiring at the nearest Express Office, the representative of any club of subscribers can ascertain whether it will be cheaper to have their packages come by mail to each individual, or in a package together by Express.

D. If to go by Express, no envelopes will be needed. In that case, simply send us a written list of the names, marking against each name the kinds of seed desired, *using the numbers in the above catalogue.*

Keep a duplicate of the list sent, and give particular directions at the bottom of the list, how the packages are to be forwarded, and to whom directed.

E. If to be sent by *mail*, please prepare the envelop carefully, after the following form:

5	3-cent
16	stamp.
20	3-cent
John Johnson Smith,	stamp.
Hamilton,	
Steuben Co.,	
Ind.	

Put the figures corresponding to the Catalogue above, plainly on the left hand of the Envelop, and put all the postage stamps upon the right side of the Envelop, one above the other when two or more are needed, as shown in the diagram. This will prevent the seeds being crushed in the stamping process, in the Post Office.

F. Let letters referring to seeds be as brief as possible, and yet plain. All such communications are referred directly to the clerk superintending that department. It is especially desirable that whatever relates to seeds should be on a *separate* slip of paper. (We shall probably distribute over *one hundred thousand packages*. A minute's time saved on each of these would amount to 166 working days, 10 hours each—more than half a year!)

G. Canada, California and Oregon subscribers will need to substitute 10-cent stamps in all cases where 3-cent stamps are named in the catalogue. When two or three send together from Canada, it will usually be cheaper to receive the seeds by Express.

H. Always put the stamps upon the envelops, and not drop them loosely into the enclosing letter.

I. It is always better to send envelops of the ordinary size and made after what is called the "Government pattern"—that is, those in which the back comes under the piece lapping over; these seal up more firmly. This point is not essential, however.

J. Usually, the lighter the envelop the better, that more seeds may go under the same stamps.

K. Send only the number of stamps required for postage on the seed. We have no seeds of any kind to *sell*.

L. Those forwarding *unpaid* envelops will of course not be disappointed if they do not return. We offer seeds *free*, but cannot, in addition, afford to pay postage also.

M. All seeds sent by mail are put up at our country residence, and each package is there mailed *direct*, to avoid its being overhauled at the Distributing Offices.

N ☞ We shall take time to mail all the seeds carefully and regularly. This will occupy the entire months of January, February, and a part of March. Those going to subscribers on the Pacific Coast and in Southern States, where the seasons are earlier, will be mailed first and with dispatch. To others they will go as fast as the putting up and mailing can be accomplished.

Special Premium to Ladies.

To any lady procuring and forwarding SIX subscribers and $5, we will send any fifteen varieties of our flower seeds they may select.

To any lady forwarding TEN subscribers, and $8, we will send a package of every kind of flower seeds—Nos. 23 to 51.) The postage on 15 kinds put up together is about 12 cents, and about 21 cents on 28 varieties.

Business Notices.

☞ *Fifty Cents a Line.*

The above engraving illustrates the operations of one of Grover & Baker's Sewing Machines, as managed by a lady. The Machines are unquestionably the best in the market for family use. This is attested by the experience of upwards of five thousand families, of the highest respectability, in all parts of the United States. No well regulated family can afford to do without one.

The following, from the Secretary of a benevolent institution is only one of many of a similar character, received by the manufacturer:

To Messrs. Grover & Baker:

NEW-YORK, Oct. 26th, 1857.

The managers of the "Female Magdalene Benevolent Association" take pleasure in bearing testimony to the great utility and efficiency of "Grover & Baker's Sewing Machines," which, for the past year, they have had in use in the sewing room of their Asylum, and they most cheerfully recommend it to those families who wish greatly to diminish labor and facilitate its successful and useful results,

On behalf of the F. M. B. Society,

A. L M., Secretary.

Editors of newspapers, too, have some appreciation of their merits, as the following opinion will show:

N. P. WILLIS, Esq., Editor of the *Home Journal* of November 7, comparing this with others, says: "The use of this machine, in the first place, is easier learned. Then the stitch is more elastic and much stronger for woolen cloths. It finishes off its own work, which the others do not. The work can be ripped and re-sewed, and does not rip of itself, without its being intended, though every third stitch be cut. The same machine runs silk, linen thread, and common spool cotton, with equal facility; and a very material advantage is that it sews from ordinary spools, not making it necessary, as in the other machines, that the cotton should first be respooled Its construction is simpler and stronger."

"The Grover & Baker machines are, *we believe*, superior to any others."—*Boston Daily Advertiser.*

"From the best information we have been able to obtain as well as from careful examination of the work done with different machines, we are led to give the preference to Grover & Baker's. The fineness and beauty of the stitch made by these machines is unsurpassed, and as to the liability of the work to rip, it is out of the question."—*American Baptist.*

The reader is invited to call and examine them at 495 Broadway, N. Y.; 18 Summer street, Boston; or at 730 Chestnut street, Philadelphia.

Market Review, Weather Notes, &c.

AMERICAN AGRICULTURIST OFFICE,
NEW-YORK, Dec. 23, 1857.

The Wholesale Produce Markets have been much depressed during the past month. The receipts of Breadstuffs have been considerably heavier than the sales, and as receivers have manifested unusu eagerness to realize, in anticipation of the regular requirements of the trade, prices have generally declined. Home dealers have been the principal buyers; the export demand has been restricted. The late news from Europe was not encouraging to shippers, whose orders are limited to a range of prices below even the reduced rates prevalent in this market. Canal navigation was protracted to the 15th instant, and the weather having been decidedly favorable for it, all the property afloat on the canals succeeded in reaching its destination. Henceforward we may look for diminished receipts of produce; but, as we begin the Winter with comparatively ample supplies of the principal commodities, the anticipation is that we will be able to meet all the probable requirements of purchasers during

the Winter months. The fluctuations in prices are not likely to be very remarkable.....The provision trade has also been quite heavy during the past month, owing mainly to the steadily increasing arrivals and the eagerness of factors to sell. The demand has been very moderate for the leading kinds, and prices have receded, closing with a tendency in favor of buyers, who purchase only such lots as they urgently need, expecting a further reduction....Groceries have been more sought after at firmer rates....Holders of Hops, Hemp and Grass Seeds ask former prices, but the inquiry is very tame....Cotton continues quite heavy and irregular, with small sales only reported daily The available supply here is 19,313 bales, against 70,545 bales the same date last year; yet holders are anxious to sell, in view of the unfavorable accounts from Europe, and the probable large diminution in he consumption, which may bring about a further decline in prices. The receipts at all the shipping ports, to latest dates this season, have been 725,839 bales, against 1,061,-,11 bales to the corresponding period of last season. The total exports from the United States so far this season have been 373,132 bales. against 360,432 bales to the same date last season. The total stock on hand and shipboard in all the shipping ports, at the latest dates, was 379,877 bales, against 566,473 bales at the same time last year. The stock in the interior towns at the latest dates was 66,320 bales, against 125,595 bales at the corresponding date a year ago....Tobacco has attracted considerable attention, at full prices for desirable qualities....Meal was quiet and nominal, until within the last week, when a better inquiry prevailed, and holders evinced more confidence. The available supplies are ample, but they are in pretty strong hands, and will not be pressed on the market....Hay has been freely purchased at uniform quotations....Other articles of produce have been moderately dealt in at essentially unaltered prices ...The following carefully prepared list of prices will show the difference between the quotations given in our last, and the closing prices, to-day:

	Nov. 25.	Dec. 23.
FLOUR—Com'n to Extra State	$4 75 @ 5 20	$4 15 @ 4 65
Common to Fancy Western	4 75 @ 5 25	4 15 @ 4 65
Extra Western	5 00 @ 8 00	4 40 @ 7 50
Fancy to Extra Genesee	5 25 @ 7 75	4 75 @ 7 50
Mixed to Extra Southern	5 20 @ 7 50	4 70 @ 7 25
RYE FLOUR—Fine and Super.	3 50 @ 4 60	3 00 @ 4 25
CORN MEAL	3 50 @ 3 75	3 25 @ 3 70
WHEAT—Canada White	1 17½@ 1 30	1 10 @ 1 30
Western White	1 15 @ 1 50	1 10 @ 1 42½
Southern White	1 22½@ 1 50	1 15 @ 1 40
All kinds of Red	93 @ 1 32	90 @ 1 20
CORN—Mixed, old	80 @	68 @
Yellow, new	86 @	55 @ 65
White, new	88 @ 90	55 @ 65
OATS—Western	46 @ 48	45 @ 47
State	43 @ 46	42 @ 45
Southern &c.	36 @ 40	30 @ 38
RYE	78 @ 79	70 @
BARLEY	70 @ 86	65 @ 80
White Beans	1 55 @ 1 65	1 50 @
Black-eyed Peas, per 2 bush.	2 75 @	2 75 @ 3 00
HAY, in bales, per 100 lbs	50 @ 75	50 @ 75
COTTON—Middlings, per lb	Nominal	10¼@ 10⅝
RICE, per 100 lbs	2 75 @ 3 50	2 75 @ 3 62½
HOPS, per lb	5 @ 8	5 @ 9
PORK—Mess, per bbl	19 00 @19 25	15 50 @16 00
Prime, per bbl	16 75 @	13 50 @13 60
BEEF—Repacked Mess	13 50 @	10 00 @12 00
Country mess	9 25 @10 50	9 00 @ 9 75
" prime	6 00 @ 7 00	5 75 @ 6 50
Hogs, Dressed, per lb	6¾@ 7¾	6¼@ 6¾
Lard, in bbls. per lb	11 @ 13	9¼@ 9⅝
BUTTER—Western, per lb	13 @ 17	10 @ 16
State, per lb	15 @ 25	13 @ 24
CHEESE, per lb	6¼@ 8¼	6 @ 8
FEATHERS, Live Geese per lb.	40 @ 44	38 @ 43
SEED—Clover, per lb	10 @	9¾@ 10
Timothy, mowed, per bushel	2 00 @	2 @
Timothy, reaped, per bushel	2 50 @	2 50 @
Flax, Am. rough, per bush	Nominal	1 20 @ 1 25
SUGAR, Brown, per lb	4¾@ 8⅛	5¼@ 8⅛
MOLASSES, New-Orleans, prgl	37½@ 40	33 @ 35
COFFEE, Rio, per lb	9¾@ 11	8½@ 10¾
Hyson Teas, per lb	33 @ 55	25 @ 55
CongouTeas	30 @ 45	30 @ 45
TOBACCO—Kentucky, &c. pr lb	7½@ 18	7 @ 18
Seed Leaf, per lb	13 @ 35	10 @ 35
WOOL—Domestic fleece, per lb.	27 @ 45	27 @ 45
Domestic, pulled, per lb	28 @ 31	20 @ 28
HEMP—Undr'd Amer'n pr ton.	Nominal	1 20 @ 1 30
Dressed American, per ton	Nominal	1 45 @ 1 65
TALLOW, per lb	9¾@ 10	
OIL CAKE, per ton	26 00 @42 00	
POTATOES—Junes, per bbl	2 25 @ 2 37	2 25 @ 2 37
Peach Blow, per bbl		2 75 @ 3 0
Carters, per bbl	2 50 @ 3 00	2 50 @ 2 75
Nova Scotias, per bushel	85 @ 90	90 @ 95
Sweet, Del., per bbl	3 25 @ 4 00	2 75 @ 3 00
Mercers, per bbl	2 25 @ 3 00	4 25 @ 4 50
Sweet, Va., per bbl	2 00 @ 2 50	3 50 @
ONIONS—Red, per bbl	1 25 @ 1 50	1 @ 1 62
White and yellow, per bbl	1 25 @ 1 75	1 75 @ 2 50
CRANBERRIES—Per bbl	5 00 @ 7 50	5 50 @ 9 00
QUINCES, per bbl	3 00 @ 4 50	
APPLES—Common, per bbl	2 00 @ 3 00	2 50 @ 3 00
Spitzenburgs, per bbl	3 25 @ 3 50	3 50 @ 4 50
Newtown Pippins per bbl	3 50 @ 4 00	4 00 @ 5 00
Greenings, per bbl	2 50 @ 3 00	3 00 @ 3 50
Fall Pippins, per bbl	3 00 @ 3 50	
TURNIPS—Ruta bagas, per bbl	75 @	62 @ 75
SQUASHES—Marrow, per bbl	1 75 @ 2 00	2 00 @ 2 50
CABBAGES—Per 100	3 00 @ 4 00	2 50 @ 1 00
CAULIFLOWER—Per dozen	75 @ 1 25	
CELERY—Per dozen	75 @ 1 00	75 @ 1 00
POULTRY—Fowls, per lb	9 @ 11	9 @ 11
Chickens, per lb	10 @ 12	8 @ 12
Ducks, per pair	75 @ 1 25	75 @ 1 00
Partridge, per pair	63 @ 75	63 @ 75
Grouse, per pair	1 50 @	1 00 @ 1 25
Turkeys, per lb	12 @ 14	10 @ 14
Geese, eper lb	1 00 @1 50	8 @ 11
PUNS—Roasters	1 25 @ 2 00	1 25 @ 2 25
VENISON—Carcass, per lb	11 @ 12	8 @ 10
Bear meat, carcass, per lb		12 @ 16
Rabbits, each		10 @ 15

We annex a statement of the total receipts of the leading kinds of Breadstuffs by railroad, river and coastwise, and of the total sales here for four weeks, ending to-day:

	Receipts.	Sales.
Wheat-flour, bbls	571,541	265,534
Wheat, bush	710 726	563,900
Corn	131,131	287,660
Rye	17,266	57,760
Barley	44 000	30,100
Oats	109,704	——

This statement affords the following comparison of the total receipts in each of the last two months:

	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
30 bus. days last mon.,	521,000	1,803,375	360,943	13,375	33,625	107,332
23* bus days this mon	571,541	710,726	131,311	17,266	44,000	109,704

It also enables us to give the following comparison of the total sales in each of the last months:

	Flour.	Wheat.	Corn.	Rye.	Barley
30 business days last month,	493,362	1,799,125	666,250	23,375	84,375
23* business days this month	265,534	563,900	287,660	57,760	30,100

* Nov. 26, 1857, having been Thanksgiving Day in this State, no business was transacted.

We annex a comparison of the receipts and sales here for the four weeks ending with Dec. 23. in each of the last two years:

	1856.		1857.	
	Receipts.	Sales.	Receipts.	Sales.
Flour, bbls	448,000	346,565	571,541	265,534
Wheat, bush	1,143,550	1,350,540	710,726	563,900
Corn, bush	78,500	858,000	131,131	287,660
Rye, bush	22,250	109,500	17,266	57,060
Barley, bush	39,500	29,700	44,000	30,100
Oats, bush	86,500	——	109,504	——

Statement of the Shipments of Flour and Wheat from the Ports named, this Season to Dec. 1.

	Flour, bbls.	Wheat, bush.
Milwaukee	225,297	2,695,411
Kenosha	3,154	103,795
Racine	6,614	615,783
Port Washington	4,811	2,316
Sheboygan	5,705	46,864
Total	245,581	3,444,109

The following is a summary of the Chicago Breadstuff movement since the opening of navigation, to Dec. 14:

RECEIPTS.

	Flour, bbls.	Wheat, bush.	Corn, bush.	Oats, bush.
Totals	309,467	9,373,607	6,116,982	1,127,619

SHIPMENTS BY LAKE.

	Flour, bbls.	Wheat, bush.	Corn, bush.	Oats, bush.
Totals	159,436	9,530,961	6,880,433	383,188

Stock of Breadstuffs, in store, in Chicago. Dec. 1.

Flour, bbls	2,625	Rye, bush	806
Wheat, bush	175,167	Barley, bush	21,641
Corn, bush	6,454	Oats, bush	8,600

Richmond, Va.; Produce Receipts, from July 1 to Dec. 1.

Flour, bbls	69,280	57,099
Corn Meal, bbls	8,282	6,697
Wheat, bush	961,515	1,096,233
Corn, bush	107,711	122,636
Rye, bush	4,264	16,679
Oats, bush	16,300	2,064
Bacon, lbs	40,687	24,993
Butter, kegs	1,504	1,843
Tobacco, hhds	18,309	9,996
Tobacco, manufactured, p'gs	72,836	61,910
Wool, bales	370	380

The following is a statement of the exports of the leading kinds of Breadstuffs from the Atlantic ports of the United States since Sept. 1, 1857:

TO GREAT BRITAIN AND IRELAND.

From.	To Date, 1857.	Flour.	Wheat.	Corn.
New York	Dec. 3	231,135	2,218,083	413,794
New Orleans	Nov. 22	23,411	31,814	3,386
Philadelphia	Nov. 25	19,988	54,529	65,988
Baltimore	Nov. 27	36,970	95,495	7,900
Boston	Nov. 27	131	——	8,920
Other Ports	Nov. 20	3,343	101,457	——
Total from Sept. 1, '57		313,978	2,501,378	499,988
Same period in 1856		359,003	5,164,486	1,941,967
Same period in 1855		346,437	2,195,639	725,632
Same period in 1854		20,779	54,229	1,900,101

TO THE CONTINENT.

From New York to Nov. 24.		31,684	80,009	——
From other Ports		57,595	52,760	250

LIVE STOCK MARKETS.—There is a continued falling off in the receipts of BEEVES; only 11,700 being reported for the past four weeks, against 12,733 for previous month. This is 1,239 less than for the same period last year, but as small as is the supply, there have been quite enough for the diminished wants of consumers, and prices now range as they did last month, or about 1½c lower than at this time last year. The markets have been dull for some weeks past, and have usually closed with a supply on hand. Receipts for the week ending Nov. 25 were 2,890; Dec. 2, 3,195; Dec. 9, 2,649; Dec. 15, 2,972. Prices varied as follows: Nov. 25, ½c higher; Dec. 2, ½c lower Dec. 9, ½c higher; Dec. 15, ½c lower, leaving the prices just as they were last month, that is: For first quality, 10½c.@10¾c.; medium quality, 9c.@9½c., poor quality, 7½c @8c.; poorest quality, 6½c.@7c. Average sales, 8½c.@ 8¾c. ℔ lb., net weight.

SHEEP AND LAMBS.—The receipts have been light for the past four weeks, although the markets have not been lacking for supplies. Only 35,521 have been offered, against 43,294 for the previous month, and 38,931 for December, 1856. Prices are about as last month, ranging from 3½c. to 4½c. ℔ lb., live weight. Some of the finer animals offered last week brought $11 ℔ head The trade is dull, except for superior animals.

HOGS have been very abundant. The heavy receipts of the week ending Dec. 8th caused a marked depression in prices. They continue to arrive freely, and ranged, Dec. 15th, at 5c@5½c, gross, for corn fed, and 4½c@4¾c for distillery hogs. The abundance of warm wet weather has been opposed to packing operations.

THE WEATHER has been variable for the past four weeks, though generally very mild for Winter, with but one light snow, which lasted for a few hours only. The coldest weather was toward the latter part of November. There is now (Dec. 23) no frost in the ground, and but for the late rains, plowing might still be done....Our condensed notes read: Nov. 25, very cold and windy, mercury 15°, which is the lowest it has fallen here this Winter. 26th, clear, and still cold, mercury 16°; 27th to 29th, clear and milder; 30th, rain.—Dec. 1st to 4th, clear and mild, with no frost in the ground; 5th, three inches of snow on the ground A. M., but melted before night, clear; 6th, heavy N. E. rain storm; 7th and 8th, mild; 9th and 10th, rainy; 11th to 13th, clear and pleasant, with freezing nights; 14th to 17th, milder, and ground open; 18th, rainy A. M., clear P. M.; 19th and 20th, clear and pleasant; 21st, cloudy, with rain at night; 22d, cloudy and mild; 23d, clear and warm.

Garden, Field and Flower Seeds.

A full assortment of Domestic Field, Garden and Flower Seeds, of the growth of 1857, always on hand, and for sale wholesale and retail, among which are:

ARTICHOKE, Beans, Beet, Broccoli, Cabbage Cardoon, Cauliflower, Carrot, Celery, Chervil, Corn, Cress, Cucumber, Egg Plant, Endive, Kale or Borecole, Leek, Lettuce, Melons, Mushroom, Mustard, Nasturtium, Okra, Onion, Parsley, Purslain, Parsnip—Peas, among which are several new varieties, such as Daniel O'Rouke, Epps Monarch and Lord Raglan, Harrison's Glory, do Perfection, Hairs' New Dwarf Mammoth, do. Defiance—Peppers, Pumpkin, Radish, Rhubarb, Salsify, Spinach, Squash, Tomato—Turnips, among which will be found Aschcroft's Swede—Watermelon and Herbs.

CHINESE SUGAR CANE—Both American and imported.

SPRING WHEAT—Golden Drop, Tea, Canada Clubb, &c.

Spring Barley. Spring Rye.

OATS—Poland, Potato, and other choice varieties.

POTATOES—*Prince Albert*, which we highly recommend, (Ash Leaf, Kidney, imported;) Dikeman, Early June, and all other varieties.

SPRING AND WINTER VETCHES—Broom Corn, Spurry, Buckwheat, &c.

COTTON SEED—Sea Island and Louisiana.

FRUIT SEEDS—Apple, Pear, Quince, Currant, Gooseberry, Strawberry and Raspberry Seeds, Peach, Plum, Cherry and Apricot Pitts.

BIRD SEEDS—Canary, Hemp, Rape, Rough Rice and Millet.

OSAGE ORANGE—Buckthorn, Yellow and Honey Locust.

TOBACCO and Flax Seeds.

ONION SETTS—Red, Yellow and White Onion Setts, Top or Button and Potato Onions.

GRASS SEEDS—Timothy, Red Top, Kentucky Blue, Orchard, Ray, Italian and Perennial, Foul Meadow, Sweet Vernal, American and Hungarian Millet, Fine Mixed Lawn, &c.

CLOVERS—Large and Medium Red, White Dutch, Lucern, Sainfoin, Alsike, Crimson, Yellow Trefoil, &c.

GRAFTING WAX and WHALE OIL SOAP.

ASPARAGUS and Rhubarb Roots, Cabbage, Cauliflower, Egg and Tomato Plants furnished in season.

FRUIT TREES AND SHRUBS of all kinds furnished to order.

BOOKS—A choice variety of Standard Works on Agriculture, Horticulture, &c.

A Catalogue containing full list of Seeds and prices furnished on application.

R. L. ALLEN,
189 and 191 Water-st., New-York.

Seeds, Seeds, Seeds.

THORBURN'S

DESCRIPTIVE CATALOGUE of VEGETABLE, FIELD and FRUIT SEEDS for 1858, containing directions for cultivating vegetables, will be published during the present month, and sent to applicants inclosing a three-cent stamp. The subscribers offer of the growth of 1857, and of the finest qualities their usual extensive assortment of SEEDS, comprising every tested desirable variety known in the several departments of *Vegetable, Field, Flower, Tree and Fruit Seeds.*

J. M. THORBURN & CO.,
15 John street,
New-York.

To Farmers and Gardeners.

THE LODI MANUFACTURING CO. offer 70,000 barrels of their new Improved Poudrette for sale the coming season. It is now well known as the best fertilizer in market for Indian Corn and kitchen gardens—is perfectly harmless when applied next to the plant, and yet quick and powerful in its effect. A pamphlet with instructions for its use, certificates, &c., will be forwarded, free of cost, to any person sending their address. The L. M. Co. have a capital of $100,000 invested in this business, and a reputation of 17 years to keep up—this is *some* guarantee for a good article. Price as usual, $1 50 per barrel for any quantity over 6 bbls.; 1 bbl. $2 00; 3 bbls. $5 00; 6 bbls. $9 50; free of cartage or other expense. Address

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June. | May.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
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Finding it utterly impossible, with the present RUSH *of letters, to get the names all entered for several days to come, we have decided to consider every one's paper paid for to January, and we therefore send this number to all names upon our books for last year. Any one, if there be any such one, who gets this copy, but does not wish to continue through the year, will please consider it paid for, and not return it, but read it and pass it along to a neighbor. By next month we shall get our Mail Books regulated, and send to none but those having renewed—if there chance to be any who have not then done so.*

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Many Thanks

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Contents for January 1858.